SANYO

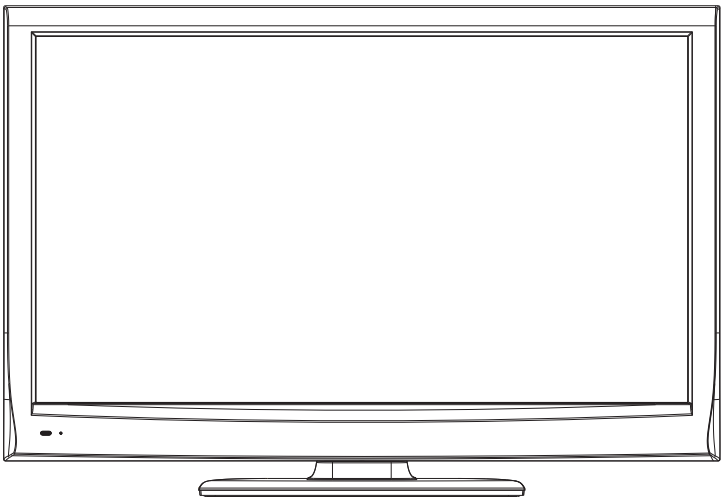
FILE NO.

SERVICE MANUAL

LCD-40XR11F

PRODUCT CODE No.
1 682 350 98: PAL-B/G (Australia)
NTSC(AV)

LCD TV



REFERENCE No.:SM0915190

CONTENTS

Safety precautions…… 3
Alignment instructions …… 5
Software upgrade instructions 12
Working principle analysis……..... 15
Block diagram…… 17
IC block diagram…… 18
Wiring diagram …… 21
Troubleshooting flow chart …… 22
Schematic diagram…… 25
APPENDIX-A: Assembly list
APPENDIX-B: Exploded View
Assembling the Stand
WALL MOUNTING INSTRUCTIONS

Attention: This service manual is only for service personnel to take reference with. Before servicing please read the following points carefully.

Safety precautions

1. Instructions

Be sure to switch off the power supply before replacing or welding any components or inserting/plugging in connection wire. Anti static measures must be taken (throughout the entire production process!):

a) Do not touch here and there by hand at will;

b) Be sure to use anti static electric iron;

c) It's necessary for the welder to wear anti static gloves.

Please refer to the part list before replacing components that have special safety requirements. Do not replace with different components with different specs and type at will.

2. LCD servicing precautions

2.1 Screens are different from one model to another and therefore not interchangeable. Be sure to use the screen of the original model for replacement.

2.2 The operation voltage of LCD screen is 700-825V. Be sure to take proper measures in protecting yourself and the machine when testing the system in the course of normal operation or right after the power is switched off. Please do not touch the circuit or the metal part of the module that is in operation mode. Relevant operation is possible only one minute after the power is switched off.

2.3 Do not use any adapter that is not identical with the TV set. Otherwise it will cause fire or damage to the set.

2.4 Never operate the set or do any installation work in bad environment such as wet bathroom, laundry, kitchen, or nearby fire source, heating equipment and devices or exposure to sunlight etc. Otherwise bad effect will result.

2.5 If any foreign substance such as water, liquid, metal slices or other matters happens to fall into the module, be sure to cut the power off immediately and do not move anything on the module lest it should cause fire or electric shock due to contact with the high voltage or short circuit.

2.6 Should there be smoke, abnormal smell or sound from the module, please shut the power off at once. Likewise, if the screen is not working after the power is on or in the course of operation, the power must be cut off immediately and no more operation is allowed under the same condition.

2.7 Do not pull out or plug in the connection wire when the module is in operation or just after the power is off because in this case relatively high voltage still remains in the capacitor of the driving circuit. Please wait at least one minute before the pulling out or plugging in the connection wire.

2.8 When operating or installing LCD please don't subject the LCD components to bending, twisting or extrusion, collision lest mishap should result.

2.9 As most of the circuitry in LCD TV set is composed of CMOS integrated circuits, it's necessary to pay attention to anti statics. Before servicing LCD TV make sure to take anti static measure and ensure full grounding for all the parts that have to be grounded.

2.10 There are lots of connection wires between parts behind the LCD screen. When servicing or moving the set please take care not to touch or scratch them. Once they are damaged the screen

would be unable to work and no way to get it repaired.
If the connection wires, connections or components fixed by the thermotropic glue need to disengage when service, please soak the thermotropic glue into the alcohol and then pull them out in case of dagmage.
2.11 Special care must be taken in transporting or handling it. Exquisite shock vibration may lead to breakage of screen glass or damage to driving circuit. Therefore it must be packed in a strong case before the transportation or handling.
2.12 For the storage make sure to put it in a place where the environment can be controlled so as to prevent the temperature and humidity from exceeding the limits as specified in the manual. For prolonged storage, it is necessary to house it in an anti-moisture bag and put them altogether in one place. The ambient conditions are tabulated as follows:

Temperature	Operation range	+5 ~ +35 ^{o}C
	Storage range	-20 ~ +60 ^{o}C
Humidity	Operation range	20% ~ 80%
	Storage range	10% ~ 90%

2.13 Display of a fixed picture for a long time may cause a permanent after-image on the screen, as commonly called “ghost shadow”. The degree of the after-image varies with the maker of LCD screen. This phenomenon doesn’t represent failure. This “ghost shadow” may remain in the picture for a period of time (several minutes). But when operating it please avoid displaying still picture in high brightness for a long time.

3. Installation precautions

3.1 The front panel of LCD screen is made of glass. When installing it please make sure to put it in place.
3.2 For service or installation it’s necessary to use specified screw lest it should damage the screen.
3.3 Be sure to take anti dust measures. Any foreign substance that happens to fall down between the screen and the glass will affect the receiving and viewing effect
3.4 When dismantling or mounting the protective partition plate that is used for anti vibration and insulation please take care to keep it in intactness so as to avoid hidden trouble.
3.5 Be sure to protect the cabinet from damage or scratch during service, dismantling or mounting.

Adjustment Instruction

1 Safety Instructions

1.1 Power supply must be cut off when replacing or welding any component or inserting / pulling out connective lines;

1.2 Anti-electrostatic measures must be carried out during the whole producing processes!

a) Do not touch IC by hands at will;

b) Use anti-electrostatic iron;

c) Welder must wear anti-electrostatic glove;

1.3 Replacing any component with special safety requirement must refer to component list without changing its specification and model at will.

2 Adjustment Equipments

Multimeter or oscilloscope

VG-849

CA-210

USB storage device

DVD (HDMI 1.4 supported) or equipments with the same functions

3 Adjustment Processes

3.1 Power voltage checking

According to the wiring diagram specified by “Product Specification”, connect power board assembly, data processing assembly, IR/Key board assembly, backlight board assembly correctly, supply with power, press button ⏻ to power on the TV set.

Make sure the voltages of socket X601 each pin on the main board are correct.Voltage value and range are listed as Table 1:

Table 1 Voltage of X601 each pin

X601	Pin1,2	3,4	5,6	7,8	9	10	11	12	13
Voltage	24V±5%	0	12 V±5%	0	≤5.2V	5 V±5%	5 V±5%	≤5.2 V	≤5.2 V
Function	AMP_PWR	GND	+5V STB	GND	PWR_SW	Main 5V	+5V STB	BL_PWM	BL_ON

3.2 Adjustment flow as Fig. 1:

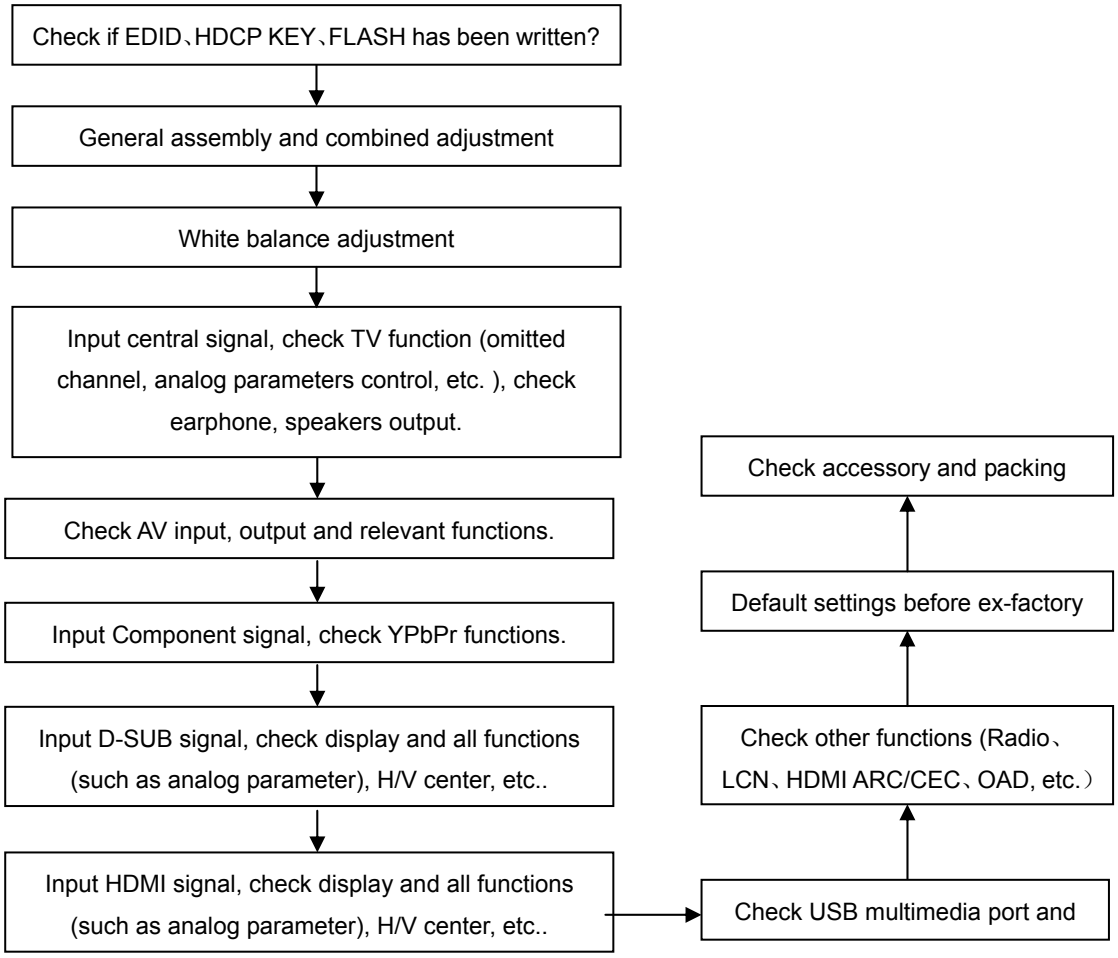

Check if EDID、HDCP KEY、FLASH has been written?
General assembly and combined adjustment
White balance adjustment
Input central signal, check TV function (omitted channel, analog parameters control, etc.), check earphone, speakers output.
Check AV input, output and relevant functions.
Input Component signal, check YPbPr functions.
Input D-SUB signal, check display and all functions (such as analog parameter), H/V center, etc..
Input HDMI signal, check display and all functions (such as analog parameter), H/V center, etc..
Check USB multimedia port and
Check other functions (Radio、LCN、HDMI ARC/CEC、OAD, etc.）
Default settings before ex-factory
Check accessory and packing

Fig. 1 Adjustment flow chart

4 Adjustment Instruction

4.1 The unit adjustment

4.1.1 According to the wiring diagram specified by “Product Specification”, connect power/backlight board assembly, data processing assembly, IR/Key board assembly correctly, supply with power, turn on the TV set. Check display.

4.1.2 Factory menu instruction

a) Press key “**INPUT**”, then press digital keys “**2、5、8、0**” in turn to enter into primary factory menu;
b) Press keys “▲” and “▼” to move cursor to each page of primary factory menu, then press key “**OK**” to enter into submenu page;
c) Press keys “▲” and “▼” to move cursor upward or downward within any one page;
d) Press keys “◄” and “►” to do adjustment when move cursor to one item;
e) Press key “**MENU**” to exit submenu page to the superior factory menu;
f) Press key “**EXIT**” to exit factory menu in any case;
g) Press key “**OK**” to enter the inferior factory submenu;
h) Factory menu item: **Aging Mode** to be used for aging the TV set; red, green blue and white full screen picture displays in turn; default setting is OFF;
i) Factory menu item: **ADC ADJUST** to be used for ADC calibration for VGA and Component;
j) Factory menu item: **Fac. Channel Preset** to be used for factory channel presetting; central signal digital frequency value for Australia program is set as CH28(529.5 MHz) and CH33(564.5 MHz); original digital program presetting could not change if central signal setting has any modification, so please search for digital program manually by perform item DTV of menu Channel;
k) Factory menu item: **Color Temp.** to be used for white balance adjustment;
l) Factory menu item: **Store Setting Init.**
m) Factory menu item: **USB SW Update** to be used for software updating from USB port; when U disk containing updating software is inserted into USB port, choose the item to perform updating process;
n) Factory menu item: **Other Settings** include settings of EEPROM Init, MEMC Update, Power mode, MST DEBUG, ISP MODE, Backlight, SSC, NONLINEAR, Video Quality, Audio Quality, Light Sensor, Overscan, etc.; no need any adjustment normally.
o) Factory menu item: **Shipment** to be used for initializing user data; Success flag will display after initialization, then press KEY POWER only to power off the TV set.
p) Please perform **EEPROM Init** before adjustment for the first time if software has been upgraded or data have been kept in EEPROM.

4.1.3 ADC calibration for D-SUB channel

a) Switch to D-SUB channel;
b) Press key “**INPUT**”, then press digital keys “**2、5、8、0**” in turn to enter into primary factory menu;
c) Move cursor to item “**ADC ADJUST**” and press key “**OK**” to enter into the inferior submenu;
d) Input D-SUB signal (**VG-849 Timing:856 (1024×768/60 Hz), Pattern:914 Chess Pattern**); move cursor to item “**MODE**”, press keys “▲” and “▼” to choose item “**RGB**”, then move cursor to item “**AUTO ADC**” and press key “**OK**” to perform auto adjustment until prompt “**success**” displays;

4.1.4 ADC calibration for Component channel

a) Switch to Component channel;
b) Press key "**INPUT**", then press digital keys "**2、5、8、0**" in turn to enter into primary factory menu;
c) Move cursor to item "**ADC ADJUST**" and press key "**OK**" to enter into the inferior submenu;
d) Input Component signal (**VG-849 Timing:972(1080i), Pattern:918 100% color bar**); move cursor to item "**MODE**", press keys "▲" and "▼" to choose item "**YPbPr**", then move cursor to item "**AUTO ADC**" and press key "**OK**" to perform auto adjustment until prompt "**success**" displays;

4.2 White balance adjustment

Unless specified by customer, default settings of **COOL color temperature is 12000K and chromatic coordinates is** (**272、278**); referenced settings of **Normal** color temperature is **9300K** and chromatic coordinates is (**285、293**); referenced settings of **Warm** color temperature is **6500K** and chromatic coordinates is (**313、329**);

Default setting is **Normal.**

4.3 Adjustment procedures

The TV set should be working above 30 minutes to be in a stabler state before adjustment. Use CA-210 BBY channel to adjust white balance;

a) Switch to HDMI channel;
b) Press key "**INPUT**", then press digital keys "**2、5、8、0**" in turn to enter into primary factory menu;
c) Move cursor to item "**W/B ADJUST**" and press key "**OK**" to enter into the inferior submenu;
d) Input HDMI signal (**VG-849 Timing:856(1024×768/60 Hz)，Pattern:921 16 step Gray**); move cursor to item "**MODE**", press keys "▲" and "▼" to choose item "**HDMI**", then move cursor to item "**TEMPERTURE**" and press keys "▲" and "▼" to choose "**COOL**";
e) Fix "**G GAIN**", adjust "**R GAIN, B GAIN**" to set 14th chromatic coordinates as (272、278);
f) Fix "**G OFFSET**", adjust "**R OFFSET、B OFFSET**" to set 4th chromatic coordinates as (272、278);
g) To make sure chromatic coordinates of bright scale are (**X=272±10，Y=278±10**) and chromatic coordinates of dark scale are (**X=272±10，Y=278±10**) during adjusting;
h) Move cursor to item "**COPY ALL**" to copy white balance data to other channels except **DTV** channel;
i) Check if chromatic coordinates of NORMAL and WARM meet the requirements (permitted error of **NORMAL** bright scale: **x±10，y±10**, permitted error of **NORMAL** dark scale: **x±10，y±10**; permitted error of **WARM** bright scale and dark scale: **x±10，y±10**); if not, adjust "**R_GAIN /B_GAIN/R_OFF/B_OFF**" to be up to the requirements and then save the data;
j) Perform "**Copy All**" for Normal/Warm adjustments except **DTV** channel;
k) Check if chromatic coordinates of other channels meet the requirements, if not, do adjustment for nonstandard channel alone with the same procedures from b) to j) as HDMI channel's and then save the data;
l) Switch to HDMI channel, change to 16-grey-scale program from central signal source, adjust white balance with the same procedures from e) to g) as HDMI channel's; but **pay attention not to perform "COPY ALL"!**
m) Inspect all channels after completing adjustment to check if display is normal;
n) Refer to the following rule for adjustment:

B Gain/Offset: adjust B Gain/Offset downward, coordinates of X and Y will increase, adjust B Gain/Offset upward, coordinates of X and Y will decrease;

R Gain/Offset: adjust R Gain/Offset will affect X value, but affect Lv value slightly, adjust R Gain/Offset upward, coordinates of X will increase, adjust R Gain/Offset downward, coordinates of X will decrease;

G Gain/Offset: adjust G Gain/Offset will affect Y value, and affect Lv value greatly, adjust G Gain/Offset upward, coordinates of Y will increase, adjust G Gain/Offset downward, coordinates of Y will decrease;

Note: Sanyo customer requires that default color temperature is Normal, adjust white balance of color temperature Normal and Cool in Dynamic picture mode; for other customers, please adjust white balance of color temperature Cool in Dynamic picture mode.

5 Function check

5.1 TV functions

Input central signal to RF port, enter into menu Channel first, then search for programs automatically and check if there is any omitted program; check the speakers output and the picture display;

5.2 AV port

Input AV signal with formats listed as Table 1 separately, check picture, sound and other functions;

Table 1 AV video signal formats

No.	Lines per frame	H.- Freq.（kHz）	V.- Freq.（Hz）	Note
1	525	15.734/15.75	59.94/60	NTSC, NTSC4.43,PAL60,PAL-M
2	625	15.625	50	PAL, PAL-N, SECAM

5.3 Component port

Input Component signal from VG-849 with formats listed as Table 2 separately, check picture and sound in the case of power-on, switching channel, changing mode, etc.;

Table 2 Component signal formats

No.	Definition	H.- Freq. (kHz)	V.- Freq. (Hz)	Dot pulse Freq. (MHz)	Note
1	720×480	15.734/15.75	59.94/60	13.5/13.514	480i (NTSC)
2	720×576	15.625	50	13.5	576i (PAL)
3	720×480	31.469/31.5	59.94/60	27/27.027	480p (NTSC PROG)
4	720×576	31.25	50	27	576p (PAL PROG)
5	1280×720	37.5	50	74.25	720p (50p)
6	1280×720	44.955/45	59.94/60	74.176/74.25	720p (59.94p/60p)
7	1920×1080	28.125	50	74.25	1080i (50i)
8	1920×1080	33.75	59.94/60	74.176/74.25	1080i (59.94p/60p)
9	1920×1080	26.973	23.976	74.176	1080p (23.97p)
10	1920×1080	27	24	74.25	1080p (24p)
11	1920×1080	28.125	25	74.25	1080p (25p)
12	1920×1080	33.716	29.97	74.176	1080p (29.97p)
13	1920×1080	33.75	30	74.25	1080p (30p)
14	1920×1080	56.25	50	148.5	1080p (50p)
15	1920×1080	67.432/67.5	59.94/60	148.35/148.5	1080p (59.94p/60p)

5.4 D-SUB port

Input D-SUB signal from VG-849 with formats listed as Table 3 separately, check picture and sound; if H./V. of picture displays abnormally, enter into main menu Picture->Screen->Auto Adjust to perform auto calibration.

Table 3 D-SUB signal formats

No.	Definition	H.- Freq. (kHz)	V.- Freq. (Hz)	Dot pulse Freq. (MHz)	Note
1	640×480	31.469	59.94	25.175	IBM
2	720×400	31.469	70.086	28.322	IBM
3	640×480	37.861	72.809	31.5	VESA
4	640×480	37.5	75	31.5	VESA
5	800×600	35.156	56.25	36	VESA
6	800×600	37.879	60.317	40	VESA
7	800×600	48.077	72.188	50	VESA
8	800×600	46.875	75	49.5	VESA
9	1024×768	48.363	60.004	65	VESA
10	1024×768	56.476	70.069	75	VESA
11	1024×768	60.023	75.029	78.75	VESA
12	1152×864	67.5	75	108	VESA
13	1280×960	60	60	108	VESA
14	1280×1024	63.98	60.02	108	VESA
15	1280×1024	80	75	135	SXGA
16	1360×768	47.7	60	85.5	WXGA
17	1440×900	55.9	60	106.5	WXGA+ (Panel National only)
18	1680×1050	65.3	60	146.25	WSXGA+ (Panel National only)
19	1920×1080	67.5	60	148.5	

5.5 HDMI port

HDMI port supports all signal formats supported by Component port (Table 2) and D-SUB port (Table 3), furthermore, it can also support signal with formats listed as Table 4 and Table 5 (video and audio combination). Check picture and sound in the case of power-on, switching channel, changing mode, etc.;

Table 4 Digital HDMI signal formats

No.	Definition	H.- Freq. (kHz)	V.- Freq. (Hz)	Dot pulse Freq. (MHz)	Note
1	720(1440)×480	15.734/15.75	59.94/60	27/27.027	720(1440)×480i@59.94/60 Hz, 4:3/16:9
2	720(1440)×576	15.625	50	27	720(1440)×576i@50 Hz,4:3/16:9

Table 5 Video & audio signal formats of digital HDMI

No.	Item	Unit	Parameter	Note
1	Video		Deep color：RGB 4:4:4（24 bit/pixel，30 bit/pixel，36 bit/pixel）、 YUV 4:4:4 （24 bit/pixel，30 bit/pixel，36 bit/pixel）、 For "1080p，deep color″，only support "30 bit/pixel" YUV 4:2:2(16 bit)、YUV 4:2:2(20 bit)、YUV 4:2:2(24 bit)	
2	Audio sample freqence	kHz	32、44.1、48	
3	Audio data width	Bit	16、20、24	

5.6 USB port

5.6.1 PVR function

Insert a formatted U disk in which recorded programs have been saved; press key “Record List” to choose and play one program, check picture, sound and other functions;

5.6.2 Media playing function

Insert a U disk kept files of picture, sound and video, check picture, sound and other functions;

Supported media formats as below:

Photo：JPEG，BMP，PNG

Video：H.264 ，MPEG-1，MPEG-2，VC-1，FLV

Audio：WMA，MP3，M4A (AAC)

5.7 Music port （depending on different models whether contain the port or not）

Input audio signal to side music port (analog audio input) from audio output equipment, check audio output.

5.8 Other functions check

a) Check timing on/off, sleeping time off, picture/sound mode, OSD, stereo, digital audio port, etc,;
b) Check pure digital audio programs (RADIO) ;
c) Check logical channel number (LCN);
d) Check HDMI ARC;
e) Check HDMI CEC;
f) Check OAD for special customer;

6 User Menu Setting before shipment

Enter into Factory Menu and choose “Shipment” to perform presetting before shipment; Main procedures are described as follow:

a) Clear out all programs;
b) Clear out information of VCHIP，parent control, etc.;
c) Default user analog parameter setting;
d) Recover default password;
e) Set Menu Language as English；
f) Set Power mode as Off。

Software Upgrading Instruction

Software Upgrading Instruction as Table 6

Table 6 Software Upgrading Instruction

Location	Part No.	Part model	Software function	SMT before upgrading	Upgrading method
N103	5272532006	EN25Q32A-100HIP	FLASH	Yes	Upgrade with ALL100, etc., need write protection, refer to Note1;
N105	5272404005	CAT24C04WI-GT3	HDCP KEY	Yes	Upgrade with ALL100, etc.
NB03	5272402003	CAT24C02WI	VGA EDID	Yes	

Note 1 Write protection setting method: enter into ALL-100 upgrading interface “AUTO”, tick off “Config”, press “config Setting”, set option “Protect” as “All Protect” and “SRWD” as “Enable”, then press “OK” to complete write protection setting;

Please make sure option “Config” is ticked off during software upgrading and reset write protection after ALL-100 upgrading software is opened each time;

Note 2 Upgrading method with ISP upgrading instrument:

1） Main board upgrading: connect 4-core line of ISP to Debug port (X603) on main board;

The Unit upgrading: connect both VGA ports of ISP and main board, enter into factory menu and set “ISP Mode” as “ON”;

2） Use Mstar upgrading instrument (V4.4.2.0 or higher version), enter into menu “Device”, tick off “WP Pin pull to high during ISP” to make sure Flash hardware write protection is removed and erasing process is normal; please refer to Fig.2;

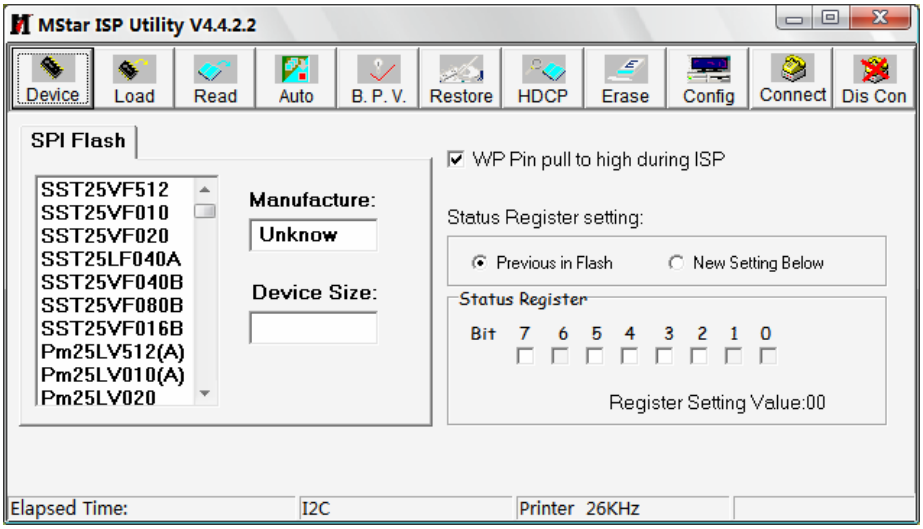


Fig. 2 Write protection setting

3） Press menu “Connect”, dialog box “Device Type is MX25L64” (device type depending on parts used on board actually) will display to show successful connection; please refer to Fig. 3;

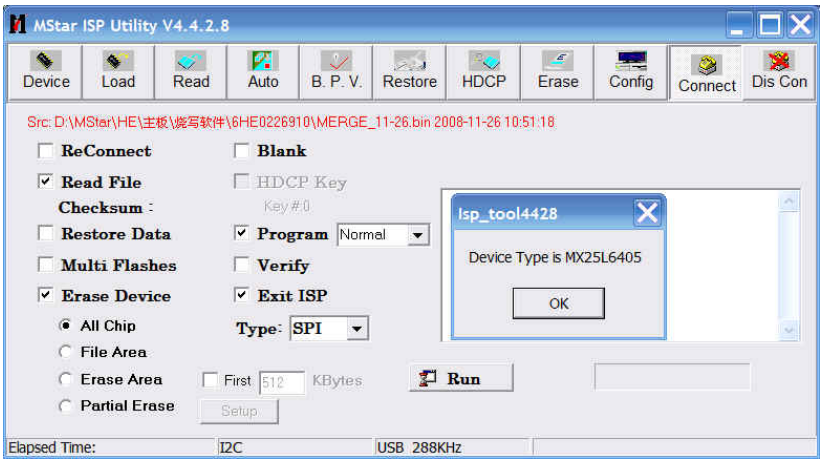


Fig. 3　Device MX25L64 successful connection

If connection is failed, press the first menu “Device” and choose “MX25L64” manually, then press “Connect”;

4） Press “Read”, choose upgrading file, such as “MERGE.bin”; please refer to Fig. 4;

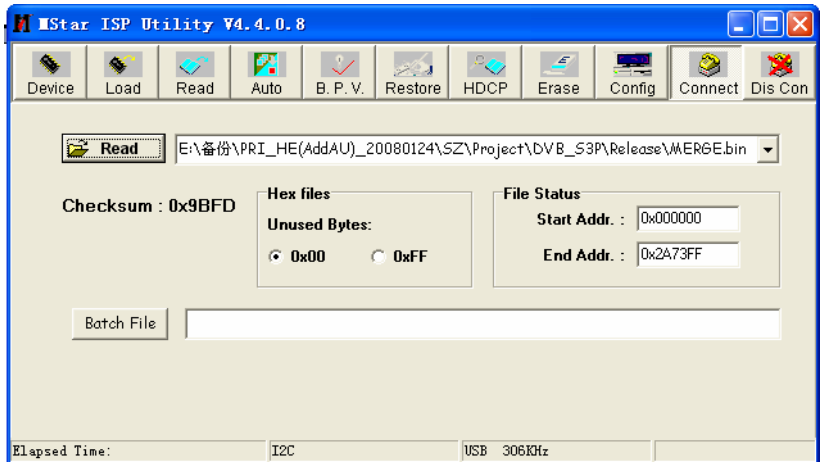


Fig. 4　Choosing upgrading file

5） Press “Auto”, tick off “All chip”, “program” and other necessary options; please refer to Fig. 5;

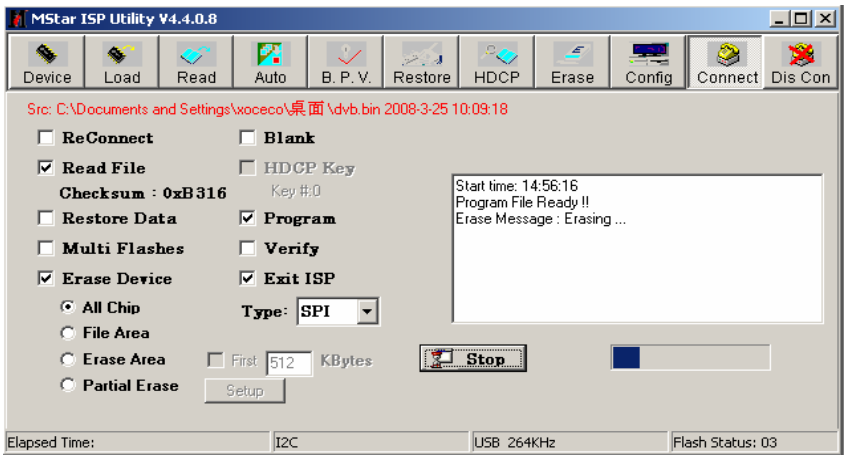


Fig. 5　Options

6） Press “Run” shown as Fig. 4 to perform upgrading in two steps, “Erase” and “Program”;

Normal upgrading process:

The first step “Erasing…， Flash Status: 03” will last for some time, or erasing is failed if the step passes over immediately; please confirm procedure 2) to perform upgrading again;

The second step is “Programming…，Flash Status:00”;

Then prompt “Pass” displays;

7） Prompt “Pass” will display by button “Run” when upgrading succeeds; please refer to Fig. 6;

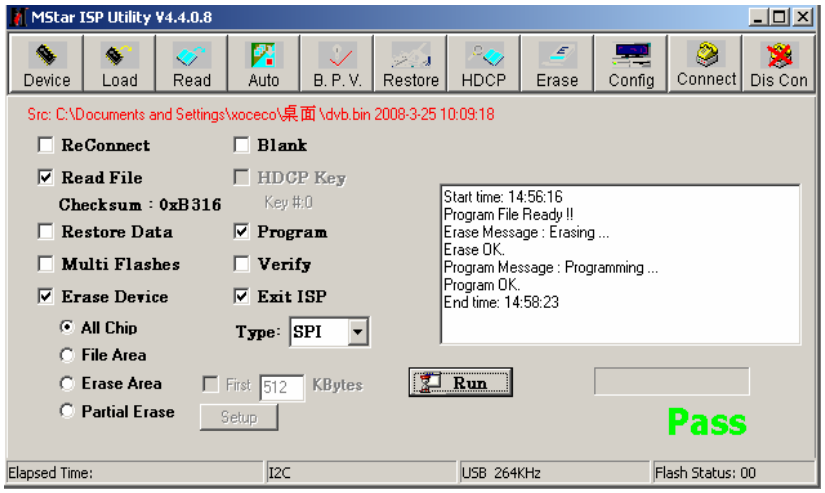


Fig. 6 Prompt “Pass” displayed by “Run” when upgrading succeeds

8） Need not exit ISP upgrading interface if there are other TV sets to be upgraded , only procedures 3) and 6) need repeat;

Note 3 Upgrading with USB:

1） Make sure U disk is formatted as FAT32;

2） Copy software file named as “Merge. bin” to U disk;

3） Turn on the TV set, then insert U disk in USB port of the unit;

a) First press key “**INPUT**”, then press keys “**2、5、8、0**” in turn to enter into primary factory menu;

b) Choose “USB SW Update” to begin upgrading;

4） Upgrading processes:

A、Read data from U disk while data indicator light of U disk is twinkling at the same time;

B、Upgrading flash, then the unit will be in “standby” mode;

5） Cut off the power supply and then restart the TV set, enter into factory menu to verify version and time parameter, then perform “EEPROM Init” to complete the whole upgrading processes.

Note: The USB upgrading method can not be sure to be suitable for all kinds of U disk, so try another U disk if necessary.

Working Principle of the Unit

1、 ATV PAL signal flow

Receive RF PAL analog signal and sent it to **XC5200C** (D/A silicon Tuner controlled by main chip **MSD309PX** through I^2C bus) to be demodulated, then differential IF signal is send out to main chip **MSD309PX** analog demodulation to be demodulated to get analog CVBS video signal and SIF sound signal.

CVBS video signal is processed by back-end video decoder, anti-interlacing part, video processor and zoom controller, then LVDS signal is outputted to drive display panel.

SIF sound signal is processed by back-end demodulator to get analog sound signal, then processed by pre-amplifier, acoustic effect processor and volume controller to get two parts of signals: the analog part of signal is sent to earphone amplifier **MAX9820** to be amplified and then outputted to earphone jack; the digital part of signal I2S is sent to digital audio power amplifier **TAS5711** to be processed by D/A converter and power amplifier, then outputted to drive speakers.

2、 DVB-T signal flow

Receive RF DVB-T digital signal and sent it to **XC5200C** (D/A silicon Tuner controlled by main chip **MSD309PX** through I^2C bus) to be processed by down-frequency-conversion, then differential IF signal is send out to main chip **MSD309PX** digital demodulation to be demodulated, then standard parallel transmission flow is outputted to back-end demultiplexer and decoder to be processed.

Video channel: demultiplexing digital video signal is processed by **MSD309PX** decoder and video processor, then LVDS signal is outputted to drive display panel;

Audio channel: demultiplexing digital audio signal is processed by **MSD309PX** decoder and audio processor, then double-sound-track analog audio signal (stereo) is outputted to **MSD309PX** to be processed by preamplifier, acoustic effect processor and volume controller to get two parts of signals: the analog part of signal is sent to earphone amplifier **MAX9820** to be amplified and then outputted to earphone jack; the digital part of signal I2S is sent to digital audio power amplifier **TAS5711** to be processed by D/A converter and power amplifier, then outputted to drive speakers.

3、 AV input signal flow

AV video signal is inputted to main chip **MSD309PX** to be processed by video decoder, anti-interlacing part, video processor and zoom controller, then LVDS signal is outputted to drive display panel;

AV audio signal is processed by voltage divider, resistance matcher and AC coupler, then sent to main chip **MSD309PX** to be processed by acoustic effect processor and volume controller to get two parts of signals: the analog part of signal is sent to earphone power amplifier **MAX9820** to be amplified and then outputted to earphone jack; the digital part of signal I2S is sent to digital audio power amplifier **TAS5711** to be processed by D/A converter and power amplifier, then outputted to drive speakers.

4、 D-SUB/YPbPr input signal flow

D-SUB、YPbPr video signal is inputted to main chip **MSD309PX** to be processed by A/D convertor, video decoder, anti-interlacing part, video processor and zoom controller, then LVDS signal is outputted to drive display panel;

D-SUB、YPbP audio signal is processed by voltage divider, resistance matcher and AC coupler, then

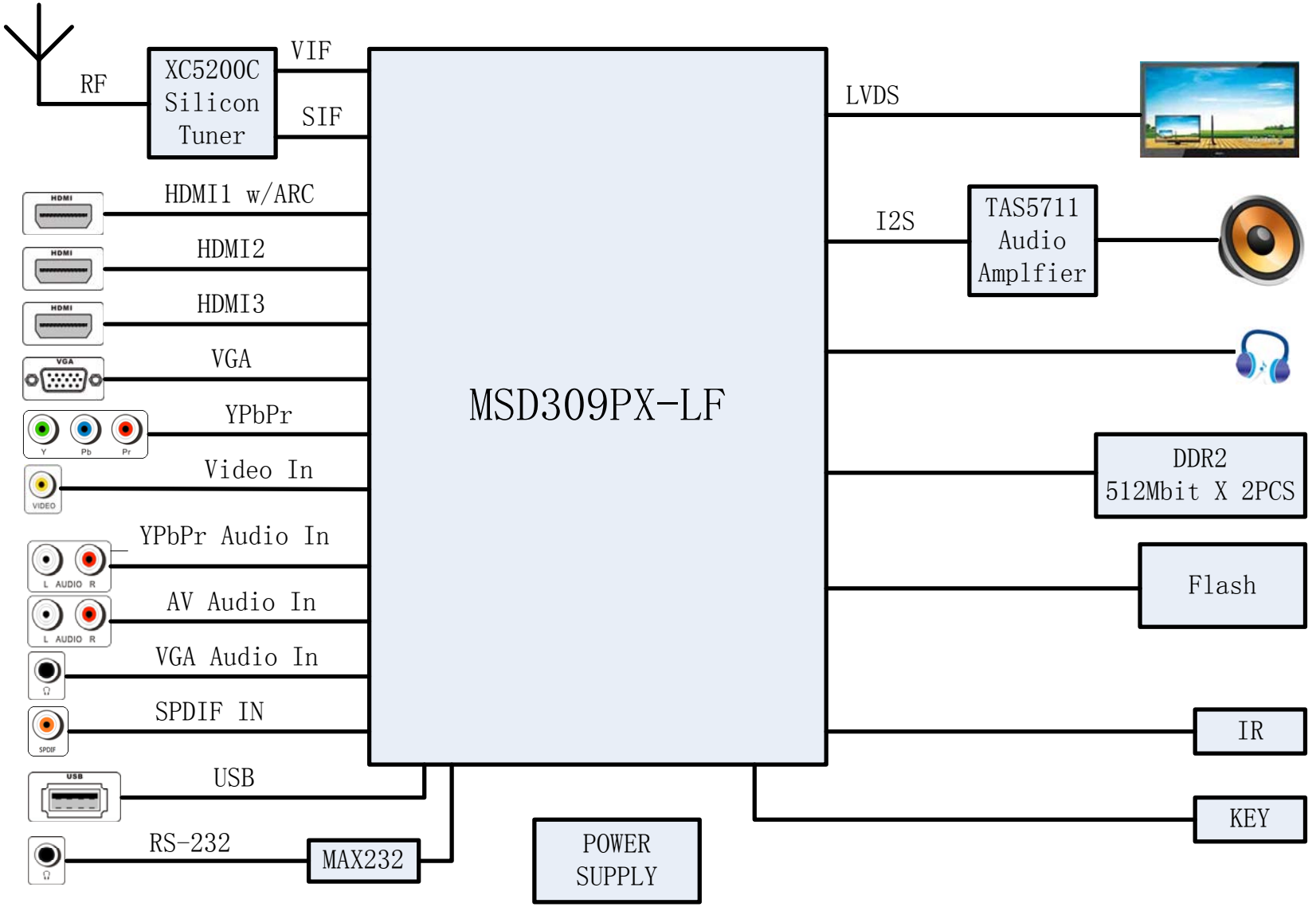
sent to main chip **MSD309PX** to be processed by acoustic effect processor and volume controller to get two parts of signals: the analog part of signal is sent to earphone power amplifier **MAX9820** to be amplified and then outputted to earphone jack; the digital part of signal I2S is sent to digital audio power amplifier **TAS5711** to be processed by D/A convertor and power amplifier, then outputted to drive speakers.

5、 HDMI input signal flow

HDMI video signal is inputted to main chip **MSD309PX** to be processed by video decoder, video processor and zoom controller, then LVDS signal is outputted to drive display panel;

HDMI audio signal is sent to main chip **MSD309PX** to be processed by audio decoder, pre-amplifier, acoustic effect processor and volume controller to get two parts of signals: the analog part of signal is sent to earphone power amplifier **MAX9820** to be amplified and then outputted to earphone jack; the digital part of signal I2S is sent to digital audio power amplifier **TAS5711** to be processed by D/A convertor and power amplifier, then outputted to drive speakers.

Block Diagram



IC Block Diagram

1、 TUNER IC XC5200C

The Single-Chip Multi-Standard Tuner XC5200C supports all analog TV formats transmitted worldwide in the 42-1000 MHz band on either cable or terrestrial broadcast channels. It implements on-chip tuning, and channel filtering without external (SAW) filters and has no manually tunable parts.

The broadband tuner converts the selected channel into an Intermediate Frequency (IF), which is then sampled by an internal high-resolution analog-to-digital converter (A/D) for further processing.

The IF signals are filtered using a standard-dependent high-rejection channel filter and converted to a user programmable output frequency. At the output of the D/A converter, the TV signal is low-pass filtered using a high-performance smoothing filter and input to a variable gain amplifier. The IF output amplifier gain can be controlled via an external analog signal on Vagc.

The XC5200C architecture is summarized in Figure 1. XC5200C Block Diagram.

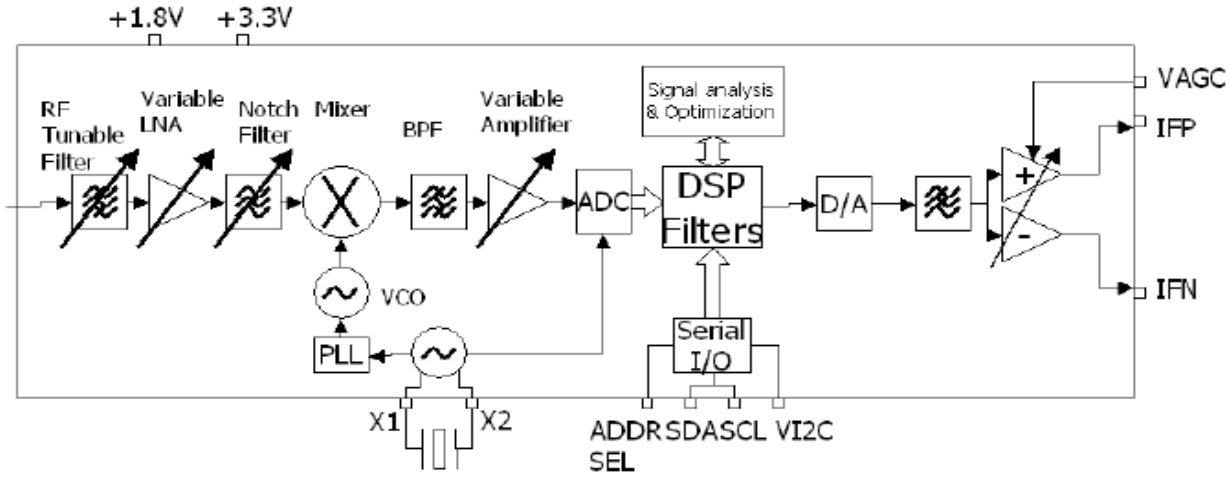
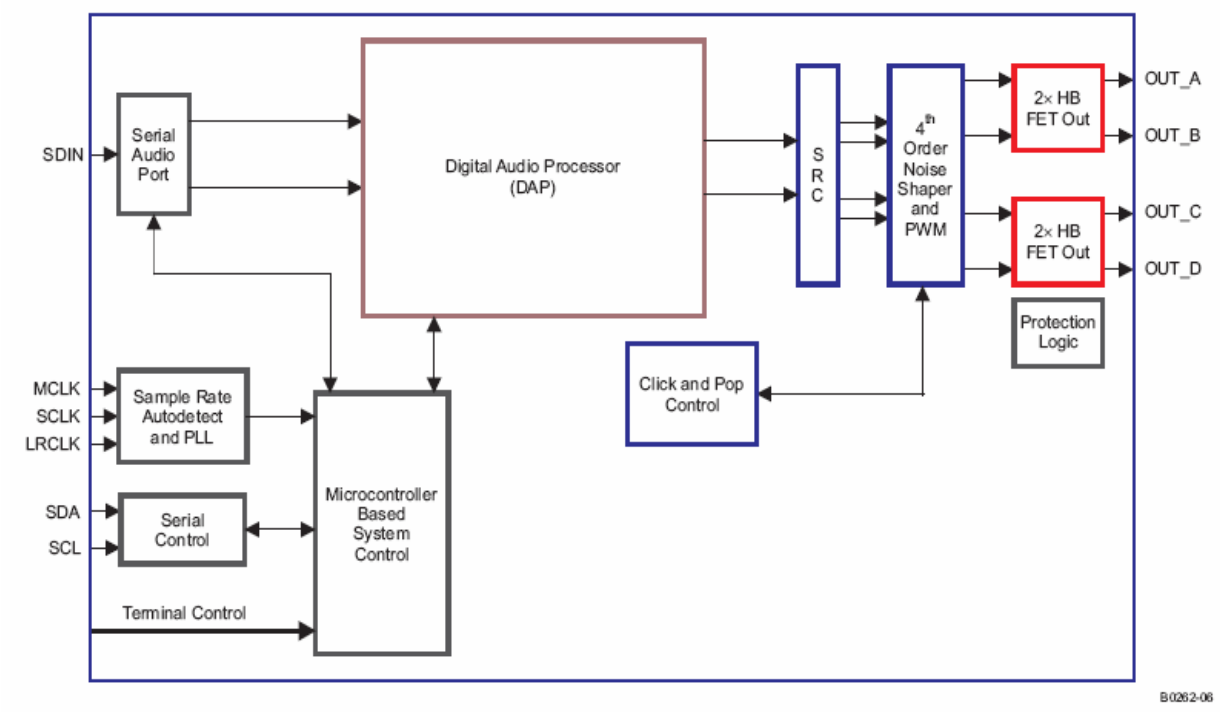


Figure 1. XC5200C Block Diagram

2、 AMP IC TAS5711

The TAS5711 is a 20-W, efficient, digital audio power amplifier for driving stereo bridge-tied speakers. One serial data input allows processing of up to two discrete audio channels and seamless integration to most digital audio processors and MPEG decoders. The device accepts a wide range of input data and data rates. A fully programmable data path routes these channels to the internal speaker drivers.

The TAS5711 is an I2S slave-only device receiving all clocks from external sources. The TAS5711 operates with a PWM carrier between 384-kHz switching rate and 352-KHz switching rate depending on the input sample rate. Over sampling combined with a fourth-order noise shaper provides a flat noise floor and excellent dynamic range from 20 Hz to 20 kHz.



3、 AUDIO IC MAX9820

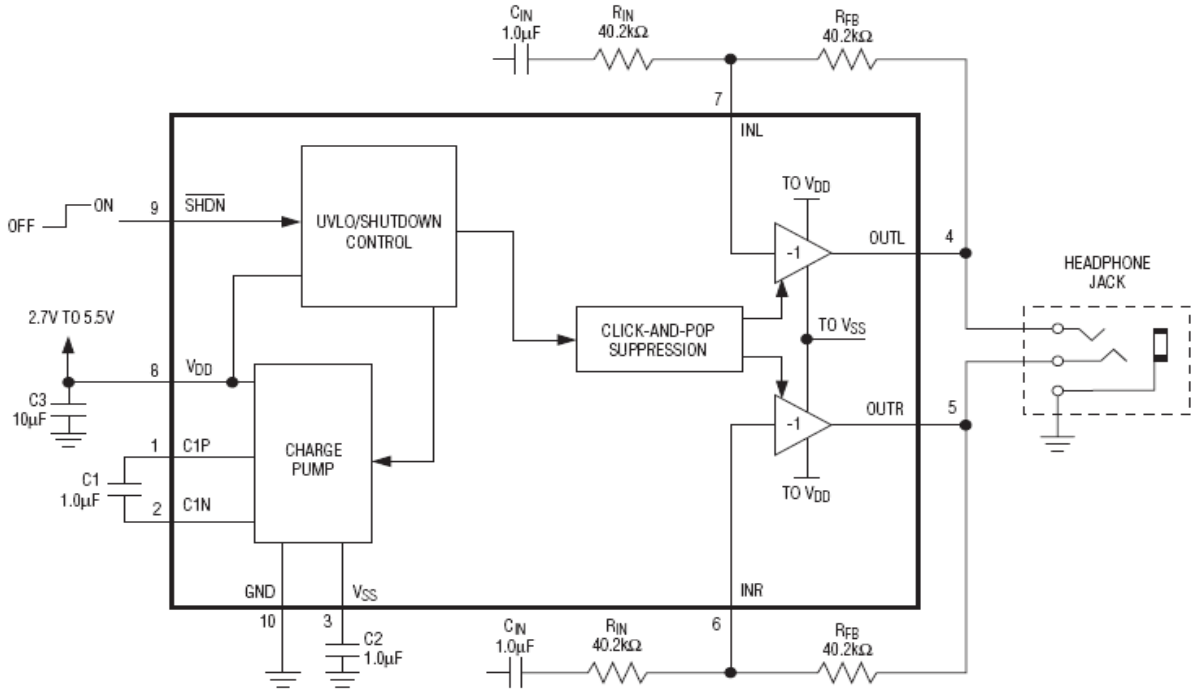
The MAX9820 Windows Vista®-compliant stereo headphone amplifier is designed for portable

Equipment where board space is at a premium. It features Maxim's DirectDrive® architecture to produce a ground-referenced output from a single supply, eliminating the large output-coupling capacitors required by conventional single-supply headphone amplifiers.

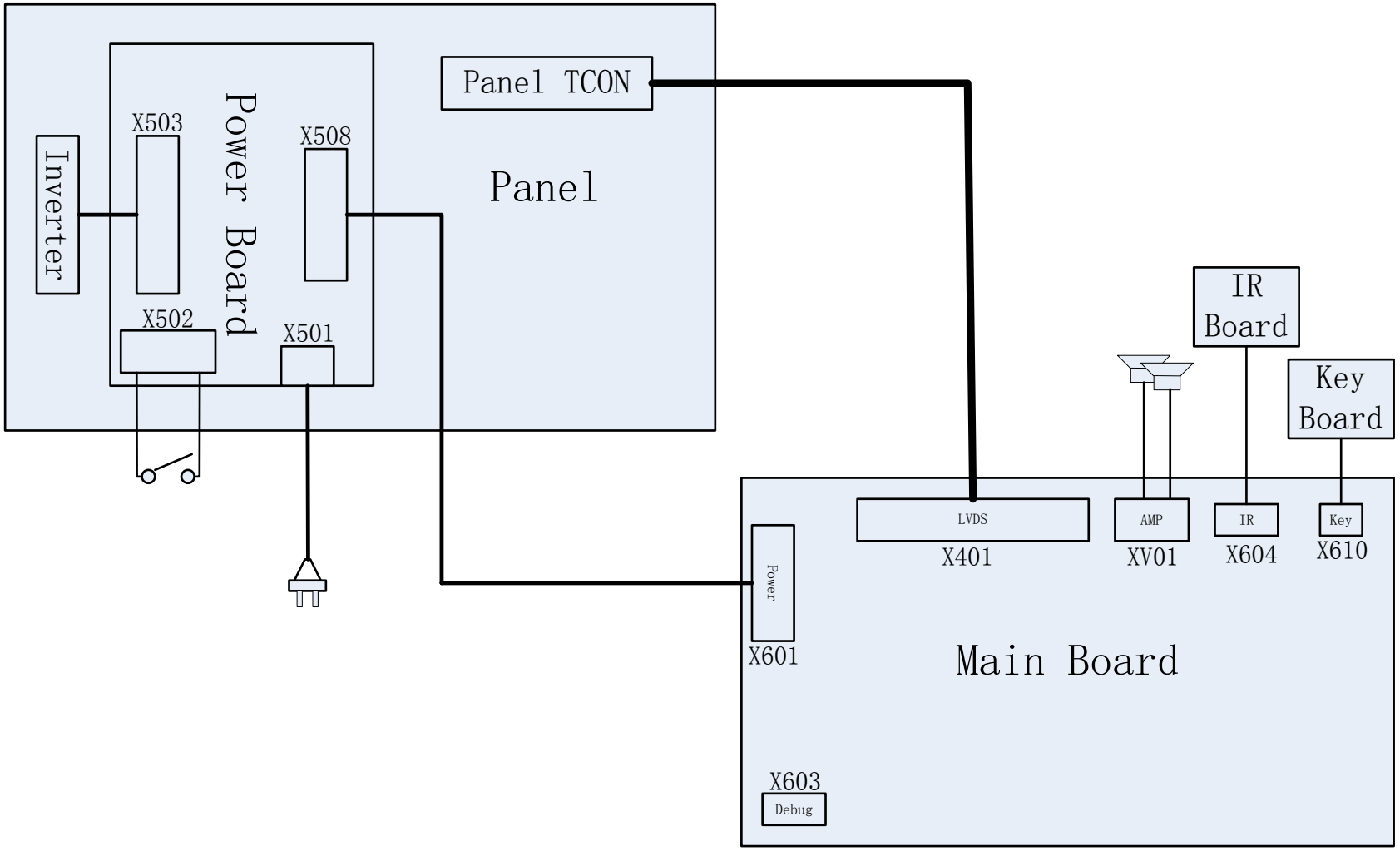
The MAX9820 features an undervoltage lockout that prevents over discharging of the battery

During brownout conditions, click-and-pop suppression that eliminates audible transients on startup, a low-power shutdown mode, and thermal-overload and short-circuit protection. Additionally, the MAX9820 suppresses RF radiation received by input and supply traces acting as

antennas and prevents the amplifier from demodulating the coupled noise.

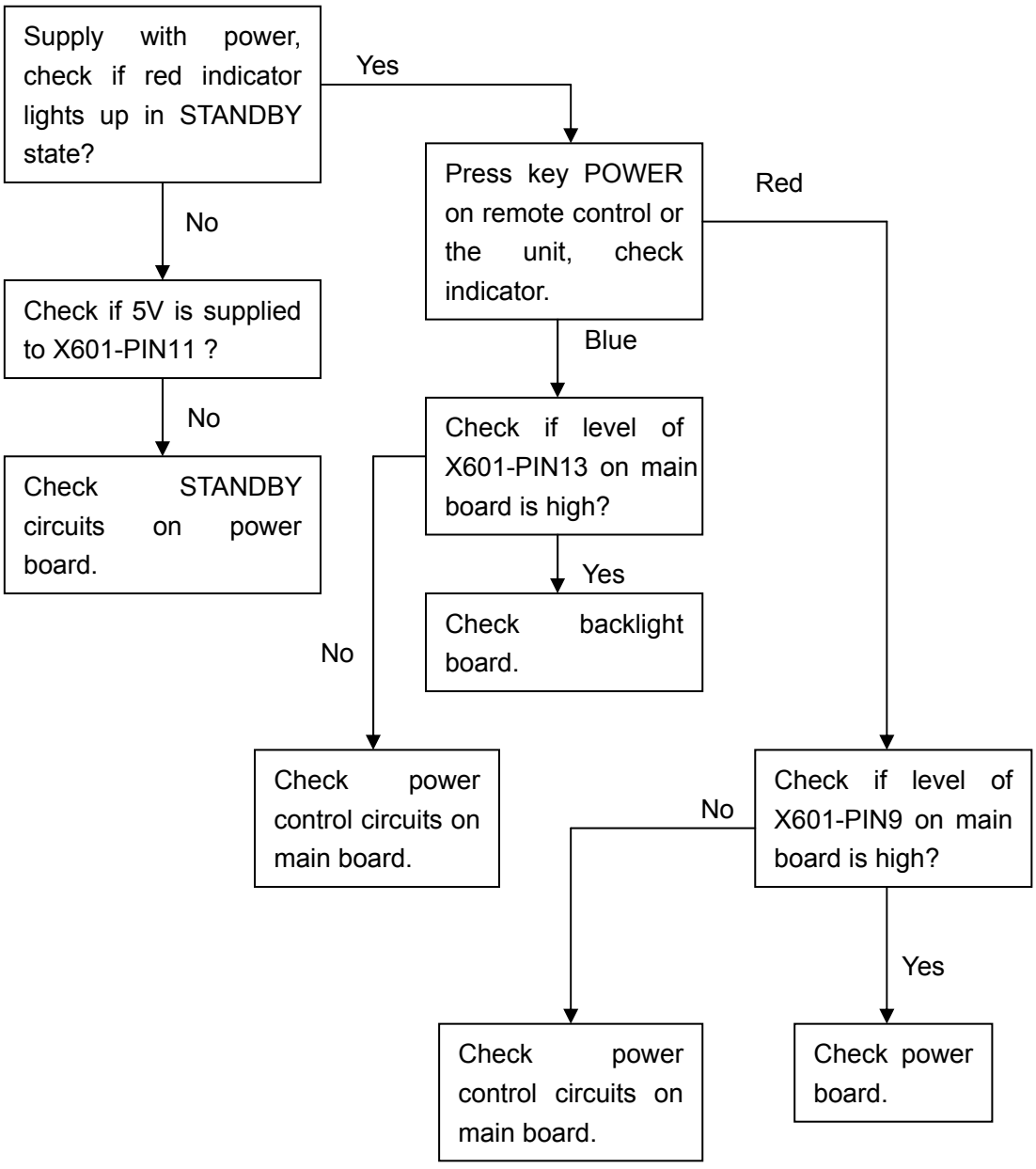


Wiring Diagram

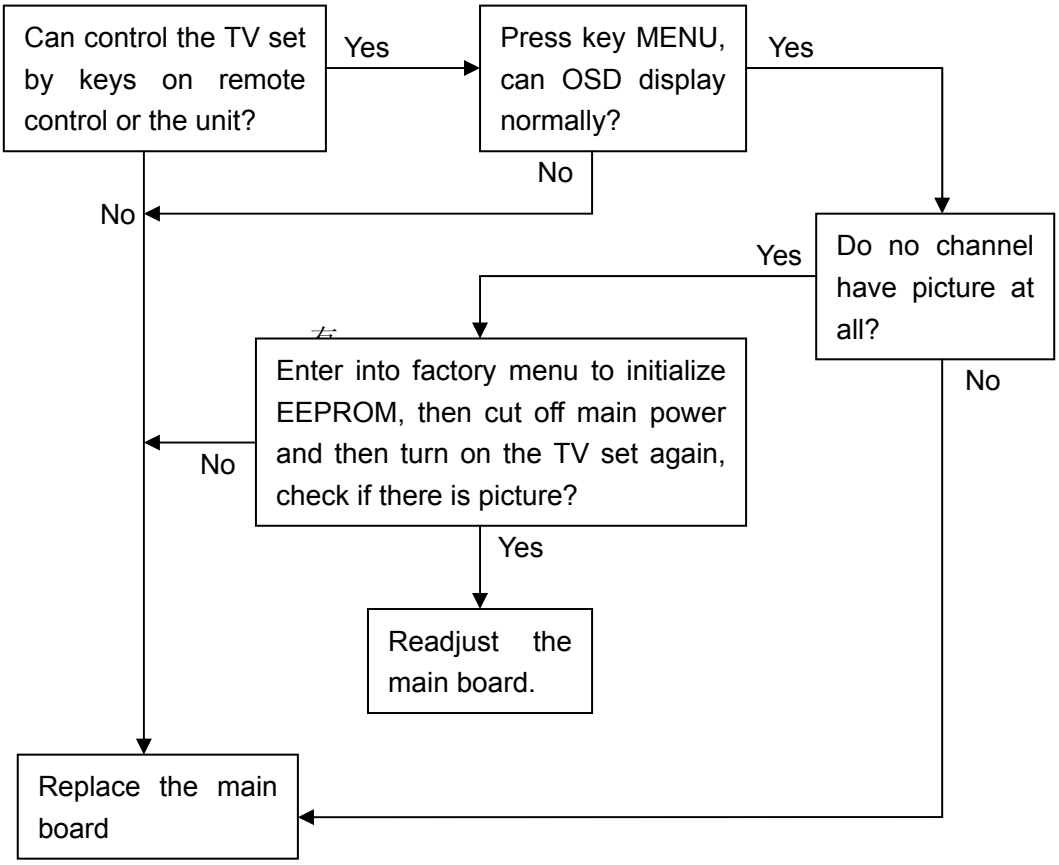


Troubleshooting Block Diagram

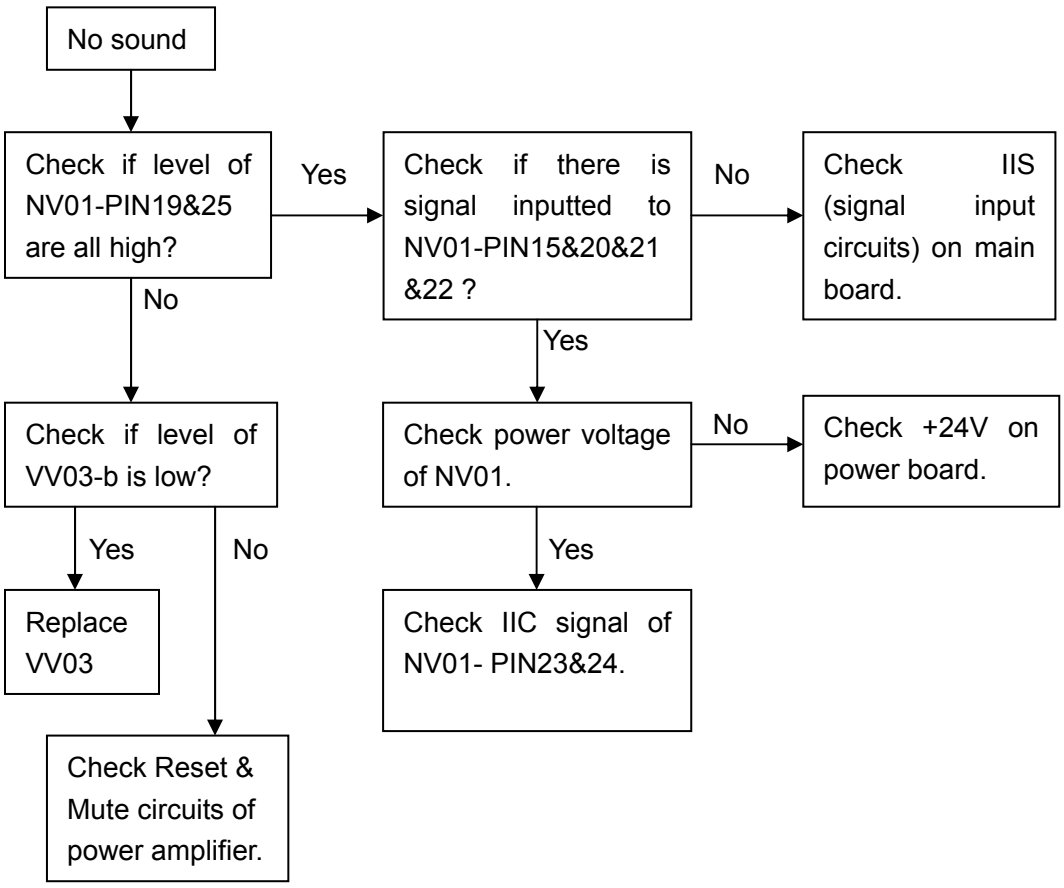
1. Panel doesn't light up.

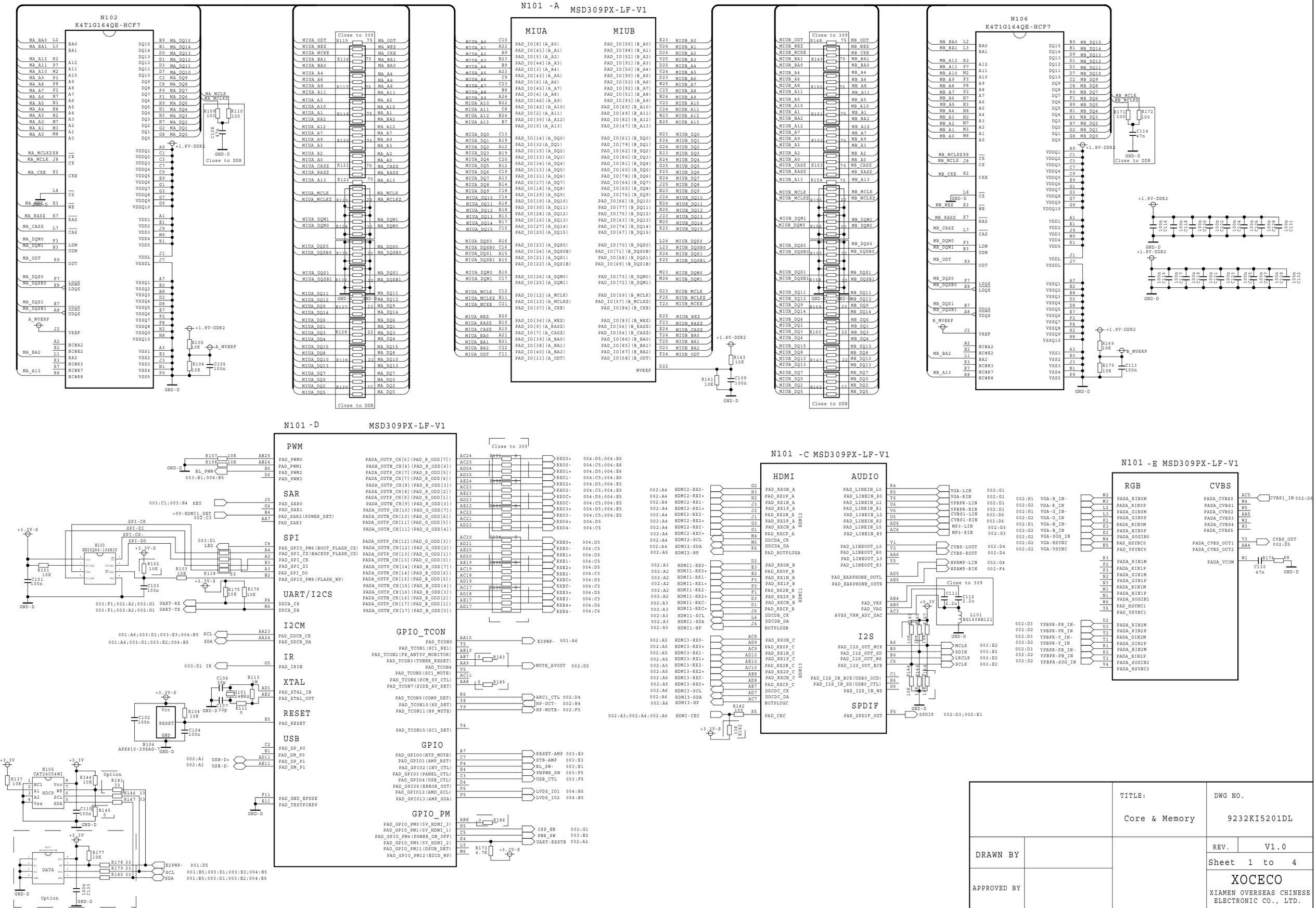

Supply with power, check if red indicator lights up in STANDBY state?
Yes
No
Check if 5V is supplied to X601-PIN11 ?
No
Check STANDBY circuits on power board.
Press key POWER on remote control or the unit, check indicator.
Red
Blue
Check if level of X601-PIN13 on main board is high?
Yes
Check backlight board.
No
Check power control circuits on main board.
Check if level of X601-PIN9 on main board is high?
No
Yes
Check power control circuits on main board.
Check power board.

2. No picture, but backlight is normal:

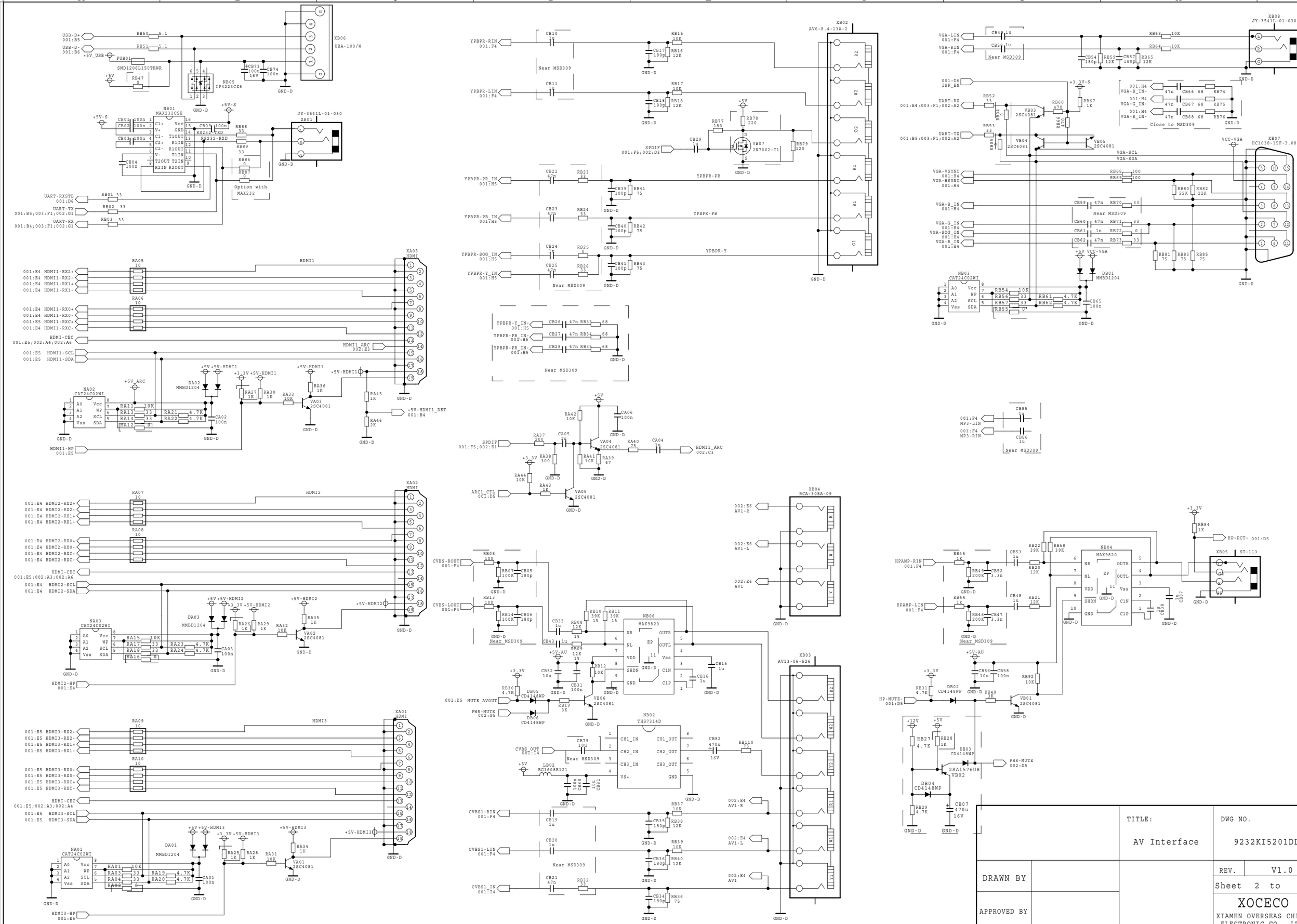

Can control the TV set by keys on remote control or the unit?
Yes
Press key MENU, can OSD display normally?
Yes
No
No
Yes
Do no channel have picture at all?
Enter into factory menu to initialize EEPROM, then cut off main power and then turn on the TV set again, check if there is picture?
No
Yes
No
Readjust the main board.
Replace the main board

3. No sound, but picture is normal:





		TITLE: Core & Memory	DWG NO. 9232KI5201DL
DRAWN BY			REV. V1.0
APPROVED BY			Sheet 1 to 4
			XOCECO XIAMEN OVERSEAS CHINESE ELECTRONIC CO., LTD.


A
B
C
D
E
F
G
H
1
2
3
4
5
6
USB-D+ 001:B5
USB-D- 001:B6
+5V_USB
RB50 5.1
RB51 5.1
FUB01
SMD1206L150THWR
XB06 UBA-100/W
NB05 IP4223CZ6
CB73 100u 16V
CB74 100n
GND-D
+5V
RB47 0
NB01 MAX232CSE
CB01 100n
CB02 100n
CB03 100n
CB04 100n
CB05 100n
RS232-TXD
RS232-RXD
RB88 33
RB89 33
RB86 0
RB87 0
Option with MAX232
+5V-S
XB01 JY-3541L-01-030
UART-RXSTB 001:D6
UART-TX 001:B5;003:F1;002:G1
UART-RX 001:B4;003:F1;002:G1
RB01 33
RB02 33
RB03 33
HDMI1
XA03 HDMI
RA05 10
RA06 10
001:E4 HDMI1-RX2+
001:E4 HDMI1-RX2-
001:E4 HDMI1-RX1+
001:E4 HDMI1-RX1-
001:E4 HDMI1-RX0+
001:E4 HDMI1-RX0-
001:E5 HDMI1-RXC+
001:E4 HDMI1-RXC-
HDMI-CEC 001:E5;002:A4;002:A6
001:E5 HDMI1-SCL
001:E5 HDMI1-SDA
HDMI1-HP 001:E5
HDMI1_ARC 002:E3
+5V_ARC
NA02 CAT24C02WI
RA11 10K
RA13 33
RA14 33
RA21 4.7K
RA22 4.7K
RA12 0
CA02 100n
DA02 MMBD1204
+5V-HDMI1
+3.3V
RA27 1K
RA30 1K
RA33 10K
VA03 2SC4081
RA36 1K
RA45 1K
RA46 2K
+5V-HDMI1_DET 001:B4
HDMI2
XA02 HDMI
RA07 10
RA08 10
001:E4 HDMI2-RX2+
001:E4 HDMI2-RX2-
001:E4 HDMI2-RX1+
001:E4 HDMI2-RX1-
001:E4 HDMI2-RX0+
001:E4 HDMI2-RX0-
001:E4 HDMI2-RXC+
001:E4 HDMI2-RXC-
HDMI-CEC 001:E5;002:A3;002:A6
001:E4 HDMI2-SCL
001:E4 HDMI2-SDA
HDMI2-HP 001:E4
NA03 CAT24C02WI
RA15 10K
RA17 33
RA18 33
RA23 4.7K
RA24 4.7K
RA16 0
CA03 100n
DA03 MMBD1204
+5V-HDMI2
RA26 1K
RA29 1K
RA32 10K
VA02 2SC4081
RA35 1K
HDMI3
XA01 HDMI
RA09 10
RA10 10
001:E5 HDMI3-RX2+
001:E5 HDMI3-RX2-
001:E5 HDMI3-RX1+
001:E5 HDMI3-RX1-
001:E5 HDMI3-RX0+
001:E5 HDMI3-RX0-
001:E5 HDMI3-RXC+
001:E5 HDMI3-RXC-
HDMI-CEC 001:E5;002:A3;002:A4
001:E5 HDMI3-SCL
001:E5 HDMI3-SDA
HDMI3-HP 001:E5
NA01 CAT24C02WI
RA01 10K
RA03 33
RA04 33
RA19 4.7K
RA20 4.7K
RA02 0
CA01 100n
DA01 MMBD1204
+5V-HDMI3
RA25 1K
RA28 1K
RA31 10K
VA01 2SC4081
RA34 1K
YPBPR-RIN 001:F4
YPBPR-LIN 001:F4
CB10 1u
CB11 1u
Near MSD309
CB17 180p
CB18 180p
RB15 10K
RB16 12K
RB17 10K
RB18 12K
XB02 AV6-8.4-13A-2
SPDIF 001:P5;002:D3
RB77 180
RB78 220
CB29 1u
VB07 2N7002-T1
RB79 120
YPBPR-PR_IN 001:H5
YPBPR-PB_IN 001:H5
YPBPR-SOG_IN 001:H5
YPBPR-Y_IN 001:H5
CB22 47n
CB23 47n
CB24 1u
CB25 47n
RB23 33
RB24 33
RB25 0
RB26 33
CB39 100p
CB40 100p
CB41 100p
RB41 75
RB42 75
RB43 75
YPBPR-PR
YPBPR-PB
YPBPR-Y
YPBPR-Y_IN- 001:H5
YPBPR-PB_IN- 001:H5
YPBPR-PR_IN- 001:H5
CB26 47n
CB27 47n
CB28 47n
RB33 68
RB34 68
RB35 68
SPDIF 001:P5;002:B1
RA37 200
CA05 1u
RA38 300
RA44 10K
RA43 1K
VA04 2SC4081
VA05 2SC4081
RA42 10K
RA41 10K
RA39 47
RA40 75
CA04 1u
CA06 100n
ARC1_CTL 001:D5
HDMI1_ARC 002:C3
XB04 RCA-308A-09
002:E6 AV1-R
002:E6 AV1-L
002:E6 AV1
CVBS-ROUT 001:F4
CVBS-LOUT 001:F4
RB06 100
RB07 100K
RB13 100
RB14 100K
CB05 180p
CB06 180p
CB33 1u
CB43 1u
RB08 12K 1%
RB09 12K 1%
RB10 39K 1%
RB11 39K 1%
RB12 10K
NB06 MAX9820
+5V-AU
CB32 10u
CB31 100n
RB30 4.7K
DB05 CD4148WP
DB06 CD4148WP
RB19 3K
VB06 2SC4081
CB15 1u
CB16 1u
MUTE_AVOUT 001:D5
PWR-MUTE 002:G5
XB03 AV13-06-526
NB02 THS7314D
CVBS_OUT 001:I4
CB79 10u
LB02 BG1608B121
CB81 10u
CB80 100n
CB82 470u 16V
RB110 75
CVBS1-RIN 001:F4
CVBS1-LIN 001:F4
CVBS1_IN 001:I4
CB19 1u
CB20 1u
CB21 47n
RB32 33
RB37 10K
RB38 12K
RB39 10K
RB40 12K
CB35 180p
CB36 180p
CB34 180p
002:E4 AV1-R
002:E4 AV1-L
002:E4 AV1
VGA-LIN 001:F4
VGA-RIN 001:F4
CB49 1u
CB50 1u
CB54 180p
CB59 12K
CB57 180p
CB65 12K
RB63 10K
RB64 10K
XB08 JY-3541L-01-030
001:D6 ISP_EN
+3.3V-S
UART-RX 001:B4;003:F1;002:A2
UART-TX 001:B5;003:F1;002:A2
RB52 33
RB53 33
RB54 33
RB55 0
VB03 2SC4081
VB04 2SC4081
VB05 2SC4081
RB60 470
RB66 470
RB67 1K
001:H4 VGA-B_IN-
001:H4 VGA-G_IN-
001:H4 VGA-R_IN-
CB66 68
CB67 68
CB68 68
RB74 75
RB75 75
RB76 75
Close to MSD309
VCC-VGA
XB07 HC1038-15F-3.08
VGA-SCL
VGA-SDA
VGA-VSYNC 001:H4
VGA-HSYNC 001:H4
VGA-B_IN 001:H4
VGA-G_IN 001:H4
VGA-SOG_IN 001:H4
VGA-R_IN 001:H4
RB68 100
RB69 100
RB80 22K
RB82 22K
CB59 47n
CB60 47n
CB61 1n
CB62 47n
RB70 33
RB71 33
RB72 0
RB73 33
RB81 75
RB83 75
RB85 75
+5V VCC-VGA
DB01 MMBD1204
NB03 CAT24C02WI
RB56 33
RB57 33
RB61 4.7K
RB62 4.7K
CB65 100n
001:F4 MP3-LIN
001:F4 MP3-RIN
CB85 1u
CB86 1u
HPAMP-RIN 001:F4
HPAMP-LIN 001:F4
RB45 1K
RB44 1K
RB49 200K
RB46 200K
CB53 1u
CB48 1u
CB52 3.3n
CB47 3.3n
RB22 39K
RB58 39K
RB20 12K
RB21 12K
NB04 MAX9820
CB97 1u
CB98 1u
XB05 ST-113
HP-DCT- 001:D5
RB84 1K
HP-MUTE- 001:D5
RB31 4.7K
DB02 CD4148WP
RB48 3K
VB01 2SC4081
CB56 10u
CB58 100n
RB92 10K
+12V
+5V
RB27 4.7K
RB28 1K
DB03 CD4148WP
2SA1576UB VB02
DB04 CD4148WP
RB29 4.7K
CB07 470u 16V
PWR-MUTE 002:D5
TITLE:
AV Interface
DWG NO.
9232KI5201DL
REV.
V1.0
DRAWN BY
APPROVED BY
Sheet 2 to 4
XOCECO
XIAMEN OVERSEAS CHINESE ELECTRONIC CO., LTD.

A B C D E F G H

1 2 3 4 5 6

X601 TJC3S-13A

If use PWM control panel, then del C612,C721 and C614

+5V +3.3V-S

C721 100u 16V, C614 100n, R611 2.2K, V603 2SC4081, R617 1K, R621 10K, R624 1K

BL_SW- 001:D6 H:OFF L:ON

+5V-S C606 220u 16V

GND-D

OPC_OUT 004:B5

1.5A +5V

C605 220u 16V, R709 2.2K, R608 10K, C612 10u, R614 2.2K, V604 2SC4081, R618 1K, R622 10K, R625 1K

BL_PWM 001:B4;004:B5

R605 FOR Large Size

R605 0

+12V 2.5A

C604 220u 16V

+5V-S +5V-S +3.3V-S

R613 1K, R615 10K, R619 1K, V602 2SC4081, V605 2SC4081, R623 10K, R626 1K

PWR_SW 001:D6 H:ON L:OFF

PWR_ON/OFF

R603 1K

+24V

C610 100n

PWR_ON/OFF 003:A2;003:A3;003:A4;003:B6

GND-D

X602 +5V-S +3.3V-S

2-3: Common Key,R639=4.7K
1-3: Touch Key,R639=5.6K 1%

R639 5.6K 1%, C639 100n

KEY 001:B4;003:H4

GND-D

X604 TJC10S-07A

1-4: Common IR
1-7: Intell IR

+5V-S +3.3V-S

R645 1K, V607 2SC4081, R647 10K, R648 1K

LED 001:B4

GND-D

+5V-S 10K R643

1K R646

IR 001:B5

+3.3V

C647 33p

SDA R642 2.2K

SCL R644 2.2K

GND-D

001:A6;001:B5;003:E2;004:B5

SDA

SCL

001:A6;001:B5;003:E3;004:B5

N101 -F MSD309PX-LF-V1

+1.2V-Core 1151mA

VDDC1.2V E22, VDDC1.2V F22, VDDC1.2V_3 E21, VDDC1.2V_4 F21, VDDC1.2V_5 H21, VDDC1.2V_6 E20, VDDC1.2V_7 F20, VDDC1.2V_8 G20, VDDC1.2V_9 G21, VDDC1.2V_10 G22

DVDD_MIUA H20, DVDD_MIUB J20

AVDD1P2 J21

+2.5V 225mA

AVDD2P5_ADC M8, AVDD2P5_ADC M9

AVDD25_REF N8, AVDD25_REF N9

AVDD_AU25 R9

AVDD25_MOD P8, AVDD25_MOD P9

AVDD25_PGA T8

AVSS_PGA U8

L612 BG1608B121

C654 100n

L613 BG1608B121

+3.3V-S

AVDD_DVI E9, AVDD_DVI F9, AVDD_DVI F10, AVDD_DVI G9

STB:6.6mA NOR:195mA or 380mA?

AVDD_DMPLL G10

AVDD3P3_ADC H9, AVDD3P3_ADC H10

AVDD_AU33 K9

AVDD_EAR33 J9

+3.3V 127mA

VDDP E19, VDDP F19

AVDD_LPLL_MEMPLL G18

+1.8V-DDR2 105mA

AVDD_DDRA_E17 E17, AVDD_DDRA_E18 E18, AVDD_DDRA_F17 F17, AVDD_DDRA_F18 F18, AVDD_DDRA_G17 G17

AVDD_DDRB_G16 G16, AVDD_DDRB_H16 H16, AVDD_DDRB_H17 H17, AVDD_DDRB_J16 J16, AVDD_DDRB_J17 J17

DVDD_NODIE L10

C655 2.2u

GND_104 N19, GND_105 M19, GND_106 L19, GND_107 K19, GND_108 N20, GND_109 M20, GND_110 L20, GND_111 K20, GND_112 N21, GND_113 M21, GND_116 L21, GND_117 K21, GND_118 N22, GND_119 M22, GND_120 L22, GND_121 K22, GND_122 J22, GND_123 H22

GND_124 U18, GND_125 T18, GND_126 R18, GND_127 P18, GND_128 N18, GND_129 M18, GND_130 L18, GND_131 K18

GND_132 D15, GND_133 B15, GND_134 F15, GND_135 G15, GND_136 H15, GND_137 J15

GND_85 K15, GND_86 L15, GND_87 M15, GND_88 N15, GND_89 P15, GND_90 R15, GND_91 T15, GND_92 U15

GND_93 U16, GND_94 T16, GND_95 R16, GND_96 P16, GND_97 N16, GND_98 M16, GND_99 L16, GND_100 K16, GND_101 D16, GND_102 K17, GND_103 L17

GND-D

+12V L603 STPB3216-380PT

C609 220u 16V, C613 10u, C627 100n

PWR_ON/OFF 003:A3;003:A4;003:A2;003:B6

R610 100K

N602 MP1482-18V

IN BS EN SW SS FB GND COMP

L610 NR6045T150M +1.2V-Core 1151mA

D602 SK34A

R633 4.3K 1%

C636 470u 16V, C638 10u

R634 10K 1%

C617 100n, C622 4.7n, C625 22n, R628 12K

GND-D

+12V L601 STPB3216-380PT

C621 100n

C603 220u 16V, C608 10u

PWR_ON/OFF 003:A2;003:A4;003:A2;003:B6

R607 100K

N601 MP2307

IN BS EN SW SS FB GND4 COMP

L607 NR8040T100M +5V-USB

Min:100mA Max:2500mA For USB and 5V TCON Use 1482 for Big Size

R629 45.3K 1%

C632 10u 10V, C722 10u 10V, C633 220u 16V

R630 10K 1%

C619 1n, C620 22n, R620 30K

C611 100n

GND-D D604 SK34A

+12V L614 STPB3216-380PT

C624 100n

PWR_ON/OFF 003:A2;003:A3;003:A2;003:B6

R602 100K

N603 MP2309

IN BS EN SW SS FB GND COMP

L608 NR6045T220M 110mA+300mA +1.8V-DDR2

R632 10K 1%, R631 10K 1%

C629 10u, C628 10u, C630 10u

C623 10u, C626 10u, C601 100n, C602 100p, C607 39n, R601 1.2K

GND-D

+24V +24V-AMP

R716 0, R715 0

R704 10K, C718 C719 C5 D, V612 APM2315A, C723 100n, C37 1000u 35V, C715 100n, RV32 47K

R653 4.7K

R652 10K

PWR_ON/OFF 003:A2;003:A3;003:A4;003:A2

V611 2SC4081

GND-D

For Small Size Power

+5V-S N608 AS1117-3V3 +3.3V-S 400mA

C643 100u 16V, C642 100n, C649 100n, C652 100u 16V

GND-D

+5V N606 AZ1117-3.3 +3.3V 150mA+225mA+...

C641 220u 16V, C644 100n, C650 100n, C653 220u 16V, C658 220u 16V, C645 100n

GND-D

+5V-TUNER L615 STPB3216-380PT N612 AZ1117-3.3 +3.3V_TUNER2 370mA for Nutune

C710 100u 16V, C711 100n, C712 10u, C713 100n

+3.3V D605 1N4001 +2.5V 225mA

C648 100n, C651 220u 16V, R710 390, R711 390, R712 390, R713 390

GND-D

+1.2V-Core

C656 100n, C659 100n, C660 100n

+3.3V

C662 100n, C664 100n, C665 100n

+3.3V-S

C657 100n

+1.8V-DDR2

C661 100n, C663 100n

GND-D

BOT

+1.2V-Core

C666 100n, C668 100n, C669 100n, C670 100n

+3.3V

C672 100n, C674 100n, C676 100n

+3.3V-S

C667 100n

+1.8V-DDR2

C671 100n, C673 100n

+2.5V

C675 100n

GND-D

X603 TJC10-04A

R686 0

R637 33, R638 33

UART-RX 001:B4;002:A2;002:G1

UART-TX 001:B5;002:A2;002:G1

GND-D

+3.3V

LV01 BG1608B121

+3.3VA

CV03 10u, CV12 0, CV06 100n

RV02 10K

NC RV03 10K

GND-D GND-S

MCLK 001:F5

RV05 33

RV13 10K, RV18 18.2K

CV05 4.7u, CV07 100n

001:F5 LRCLK SCLK SDIN SDA SCL

RV06 33, RV07 33, RV08 33, RV09 33, RV10 33

001:A6;001:B5;003:D1;004:B5

CV19 30p, CV20 30p

RESET-AMP 001:D5

RV11 1K, RV19 47K

CV08 100n

STB-AMP 001:D5

DV03 CD4148WP, RV04 3K, VV03 2SC4081, RV21 10K, DV04 CD4148WP, CV02 100n, 10K RV17, CV04 100n

+12V +5V

RV01 4.7K, RV20 1K, DV01 CD4148WP, 2SA1576UB VV01, DV02 CD4148WP, RV14 4.7K, CV01 470u 16V

GND-D

TAS5711 NV01

AVDD A_SEL MCLK OSC_RES DVSSO VR_DIG PDN LRCLK SCLK SDIN SDA SCL

VR_ANA PLL_FLTP PLL_FLTM AVSS PBTL OC_ADJ SSTIMER GVDD_OUT BST_A PVDD_A_3 PVDD_A_2 OUT_A

PGND_AB_48 PGND_AB_47 OUT_B PVDD_B_45 PVDD_B_44 BST_B BST_C PVDD_C_41 PVDD_C_40 OUT_C PGND_CD_38 PGND_CD_37

RESET STEST DVDD DVSS GND AGND VREG GVDD+OUT BST_D PVDD_D_34 PVDD_D3_5 OUT_D

RV26 100, RV27 22K

CV25 2.2n, CV26 1u, CV22 39n

CV09 4.7n, CV13 4.7n

CV10 47n, CV23 470, CV14 47n, CV24 470

+24V-AMP

CV27 1n, CV32 100n

NR8040T220M LV02 22uH

RV30 18, CV38 330p

CV42 1u

+24V-AMP CV30 220u 25V, CV31 220u 25V, CV39 220u 25V, CV40 220u 25V

RV28 10K, RV29 10K, RV33 10K, RV34 10K

XV01

NR8040T220M LV03 22uH

RV31 18, CV41 330p

CV43 1u

+24V-AME CV28 39n, CV33 1n, CV35 100n, CV29 39n, CV34 1n, CV36 100n

RV36 3K

CV11 10u 16V, CV12 100n

CV17 100n, CV21 1u

CV24 39n

RV35 3K

CV16 100n, CV18 1n

+5V R705 0 +5V-AU For Audio Out <100mA

R718 10K, C724 100n, V613 APM2315A, C725 100n, C719 100n

R719 4.7K

R717 10K, V614 2SC4081

+3.3V-S R714 4.7K

R708 0 KEY 001:B4;003:C1 Common Key

R707 0

+5V-S +3.3V-S

X610

R700 330, R706 0, R701 330, V610 2SC4081, R702 4.7K, R703 1K

+5V_USB

C636 100n

+5V-USB

+3.3V +3.3V

R693 1K, R695 10K, R694 1K, R696 10K, R698 4.7K, V609 2SC4081, V608 2SC4081, C714 10u, R697 10K, R699 47K, C715 100n

USB_CTL 001:D6

OFF ON

N605 AO4803A

S2 G2 S1 G1 D2_8 D2_7 D1_6 D1_5

VDD-P

C716 100n

+12V L604 STPB3216-380PT +5V-USB L605 STPB3216-380PT

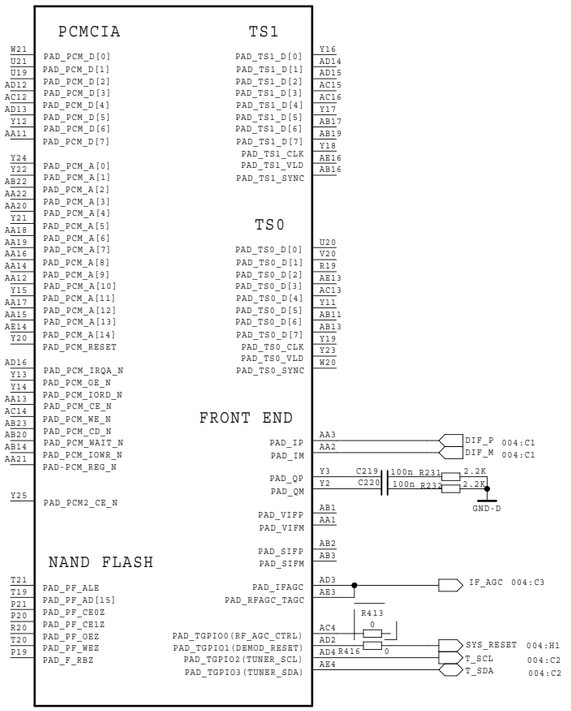
+3.3V +3.3V

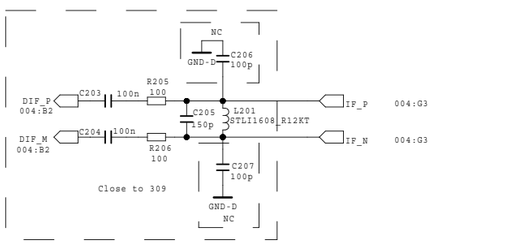
R604 1K, R606 10K, R612 1K, R616 10K, R649 4.7K, V606 2SC4081, V601 2SC4081, C678 10u, R650 10K, R627 47K, C677 100n

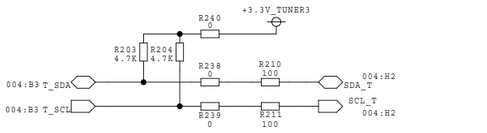
PNPWR_SW 001:D6

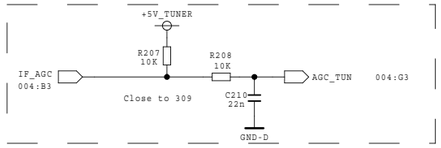
GND-D

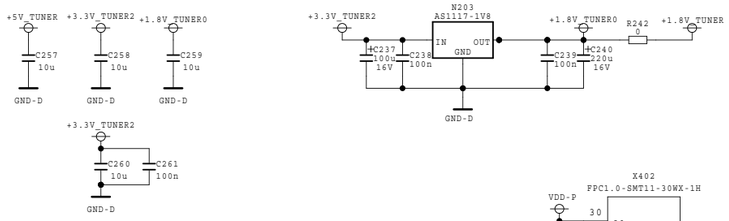
		TITLE: InternalInterface POWER & Audio AMP	DWG NO. 9232KI5201DL
DRAWN BY			REV. V1.0
APPROVED BY			Sheet 3 to 4
		XOCECO XIAMEN OVERSEAS CHINESE ELECTRONIC CO., LTD.	

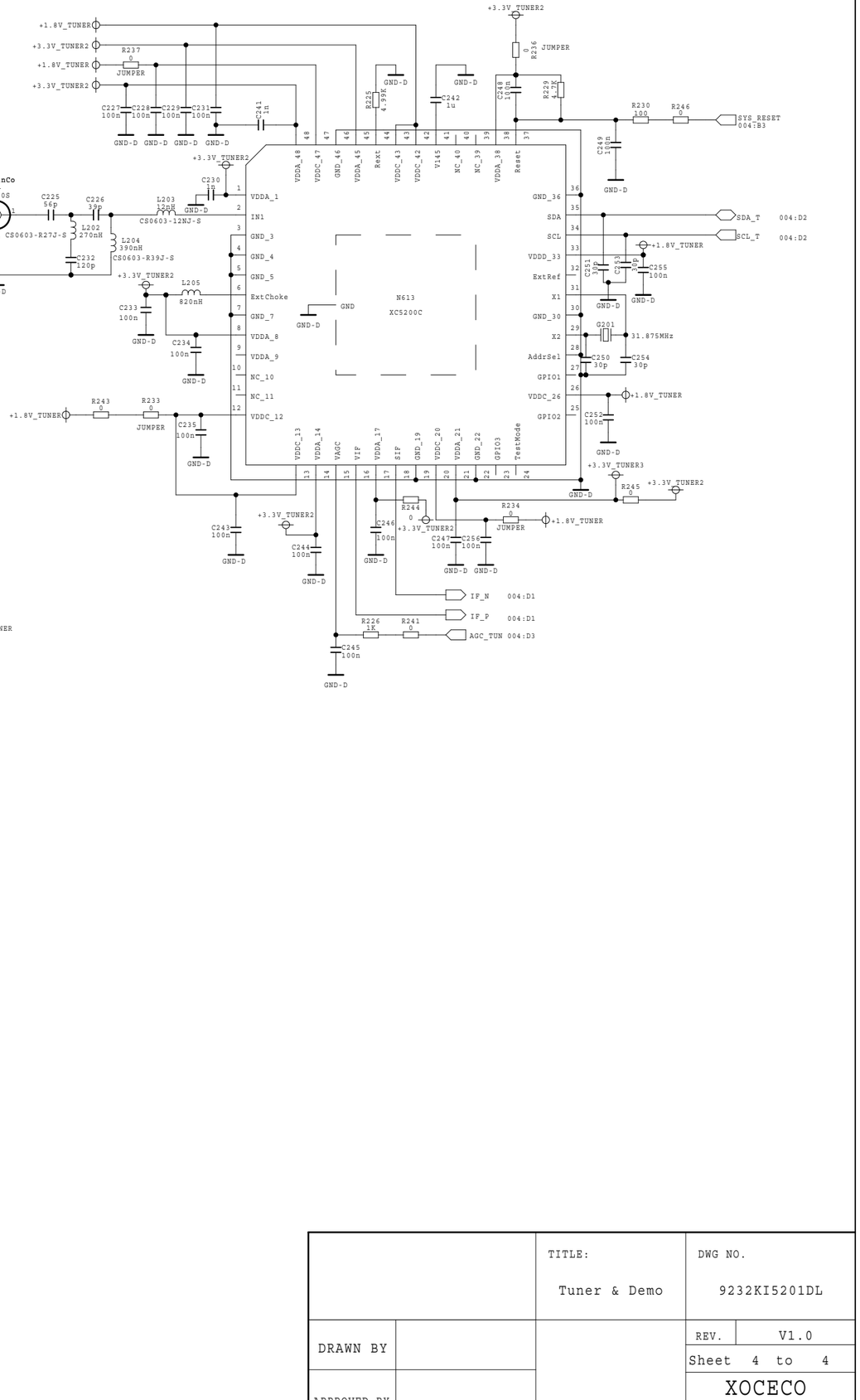


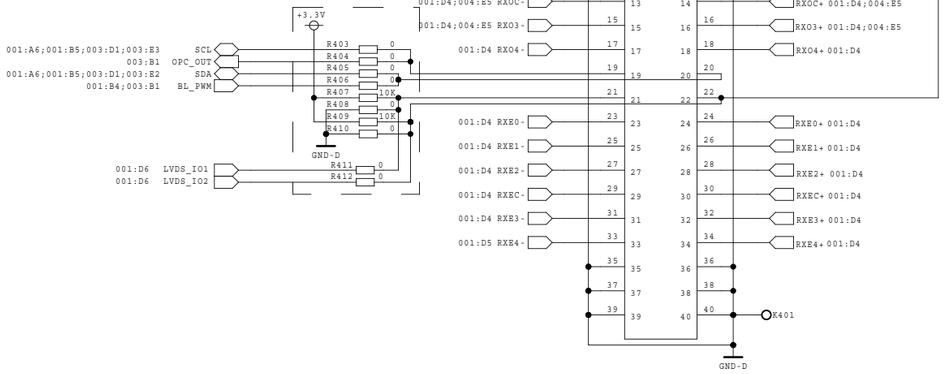


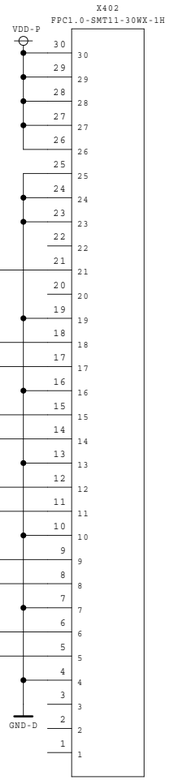












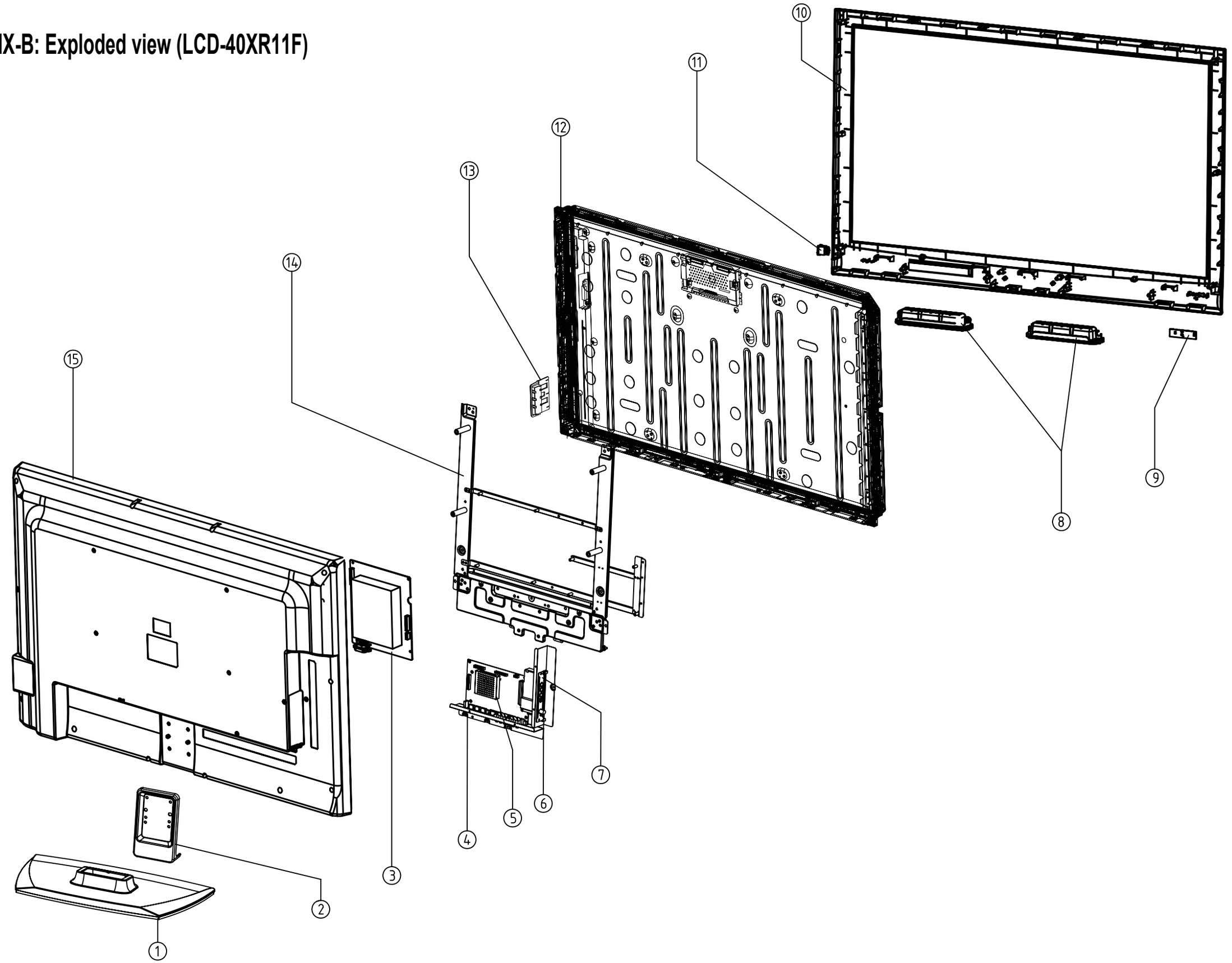
		TITLE: Tuner & Demo	DWG NO. 9232KI5201DL
DRAWN BY			REV. V1.0
APPROVED BY			Sheet 4 to 4
			XOCECO XIAMEN OVERSEAS CHINESE ELECTRONIC CO., LTD.

		名称	编号
		Power board	
版　次	更改单号		版次
更改记录			第　页　共　页
拟　制			
审　核			厦门华侨电子股份有限公司
标准化			
工　艺			
批　准			

APPENDIX-A: Main assembly 9240KI5210 LCD-40XR11F

NAME	NO.	MAIN COMPONENT AND IT'S NO.	
Main processing board	XI6KI0130110	N101 N102,N106 N613 NV01	MSD309PX-LF-SV (5270309003) NT5TU32M16DG_AC(5273216001) XC5200C (5275200002) TAS5711 (5275711001)
IR board	XI635KI01002		
Key board	XI635KI01001		
Power board	XI6KI0132010		
Remote control	XI6010900802	RC-908-0A（RC-S071）	
Panel	XI5203408104	LTA400HM09	

APPENDIX-B: Exploded view (LCD-40XR11F)



PART LIST OF EXPLODED VIEW

REF.No.	DESCRIPION
1	Pedestal assembly
2	Standing pole
3	Power board assembly
4	Interface baffle (down)
5	Main board assembly
6	Interface baffle (right)
7	RF inverter board assembly
8	Speaker assembly
9	IR assembly
10	Front cabinet assembly
11	Power switch assembly
12	Display panel
13	Key board assembly
14	Panel holder assembly
15	Back cover assembly

Note: Design and specification are subject to change without notice.

PART LIST

LCD-40XR11F ver.1.0

REF.No.	PARTS No.	DESCRIPION	Q'TY	REMARK
1	XI6151213000	Pedestal assembly	1	
2	XI58D0029010	Standing pole	1	
3	XI6KI0132010	Power board assembly	1	
4	XI5810V72200	Interface baffle (down)	1	
5	XI6KI0130110	Main board assembly	1	
6	XI5810P72110	Interface baffle (right)	1	
7		RF inverter board assembly	1	No used for the model
8	XI6170891000	Speaker assembly	1	
9	XI635KI01002	IR assembly	1	
10	XI6640520210	Front cabinet assembly	1	
11	XI635KC01204	Power switch assembly	1	
12	XI5203408104	Display panel	1	LTA400HM09
13	XI635KI01001	Key board assembly	1	
14	XI6153370000	Panel holder assembly	1	
15	XI674052J160	Back cover assembly	1	
16	XI6010900802	Remote control	1	
17	XI5944039290	User manual	1	
18	XI60Z0000760	Backlight board	1	
19	XI60Z0000761	Logical board	1	

- Only the parts in above list are used for repairing.
- Other parts except the above parts can't be supplied.

Appendix: Installing the Stand

If the stand is provided, please read these instructions thoroughly before attempting this installation.

You must install your TV into the stand in order for it to stand upright on a cabinet or other flat surface. If you intend to mount your TV on a wall or other vertical surface, you must remove the stand column.

Cautions:

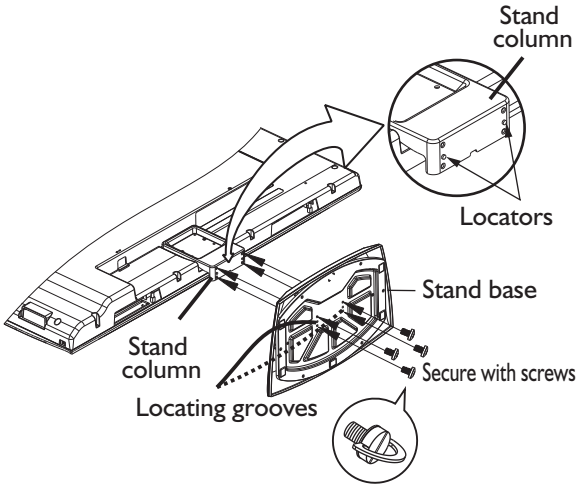
Make sure that you handle your TV very carefully when attempting assembly or removal of the stand. If you are not sure of your ability to do this, or of your ability to use the tools necessary to complete this job, refer to a professional installer or service personnel. The manufacturer is not responsible for any damages or injuries that occur due to mishandling or improper assembly.

When using a table or bench as an aid to assembly, make sure that you put down a soft cushion or covering to prevent accidental scratching or damage to your TV's finish.

The speaker is not intended to support the weight of your TV. Do not move or handle your TV by the speaker. This can cause damage to your TV that is not covered by the manufacturer's warranty.

Before attempting assembly or removal of the stand, unplug the AC power cord.

Installing the stand



To install the stand:

1. Remove the stand from the box and place it on a table or bench.

You must pay attention to the direction of the stand. The wide portion of the stand should go towards the front of the TV.

2. Lay your TV flat (screen down) on the edge of a table or bench. Make sure that you put down a soft cushion or cloth so that your TV is not scratched.

3. Align the stand base with the TV, move the stand base gently until the locators on the stand column align with the locating grooves on the stand. And align the holes in the stand with the holes in the stand column, then secure the stand to the column with provided screws.

To remove the stand from the TV, just detach the screws from the stand base.

NOTE:

The appearance of this product in these illustrations may differ from your actual product, and is for comparative purposes only.

WALL MOUNTING INSTRUCTIONS

Safety Precautions:

1. Be sure to ask an authorized service personnel to carry out setup.
2. Thoroughly read this instruction before setup and follow the steps below precisely.
3. The wall to be mounted should be made from solid materials. Only use accessories supplied by the manufacturer.
4. Very carefully handle the unit during setup. We are not liable for any damage or injury caused by mishandling or improper installation.
5. Be sure to place the unit on a stable and soft platform which is strong enough to support the unit.
6. Do not uplift the speaker when moving the display. The appearance of the unit may different from the actual ones.
7. Design and specifications are subject to change without notice.
8. Retain these instructions for future reference.

Note: All the wall mounting parts are optional and may be unavailable in your model.

Below we will show you how to mount the Display on the wall using our company's wall mounting components.

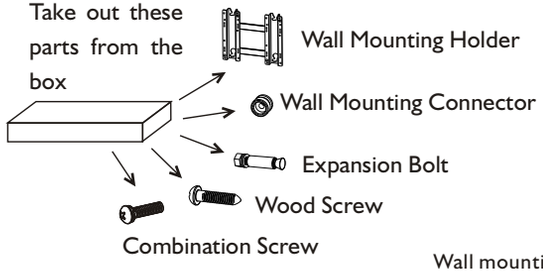


Fig.1

1. There are three options of wall mounting holder with different specifications :200200,200400,200600. Please check your wall mounting holder for its specification.

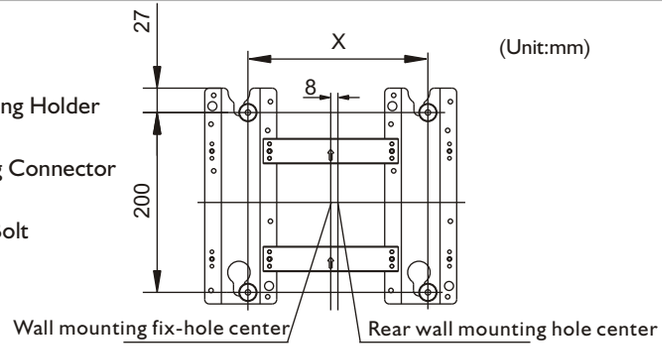


Fig.2

2. Due to the wall mounting fix-groove leaning to the right side, the whole unit will lean to right side after installation, please carefully measure the position of the holes you want to drill, refer to the parameters on Fig.2 when drilling the holes.

Note: The "X" in Fig.2 represents a data. It may be 200mm or 400mm or 600mm.

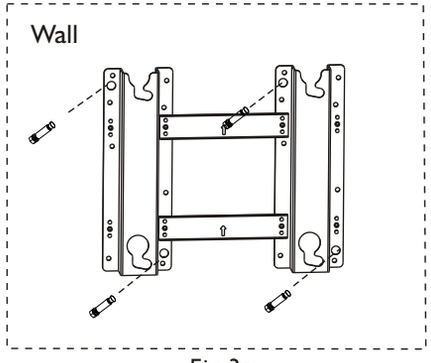


Fig.3a

3a. Screw 4pcs expansion bolts to fix the wall mounting holder on the wall.

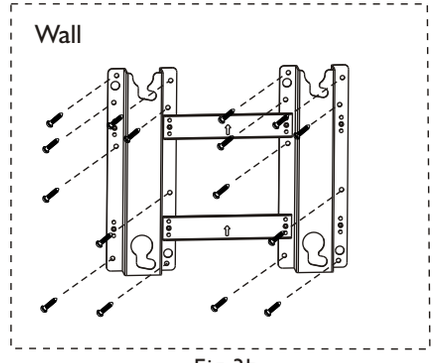


Fig.3b

3b. If your wall is a wooden structure, please fix the wall mounting holder on the wall with 16pcs wood screws.

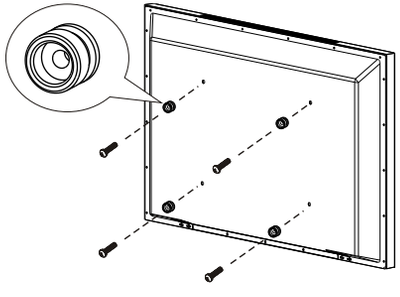


Fig.4

4. Use the 4pcs combination screws to fix the wall mounting connector to the rear of the display unit.(Caution:the direction of the connectors should be strictly confirm to the diagram illustrated above).

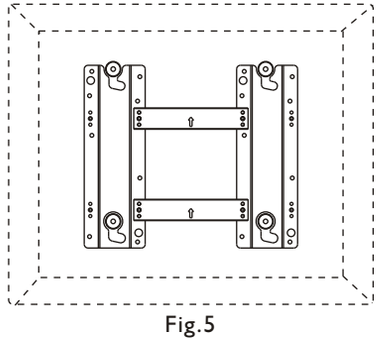


Fig.5

5. Put the back of the display unit close to the wall mounting holder, insert the four wall mounting connectors into the four calabash-shaped holes on the wall mounting holder. (Fig.5)

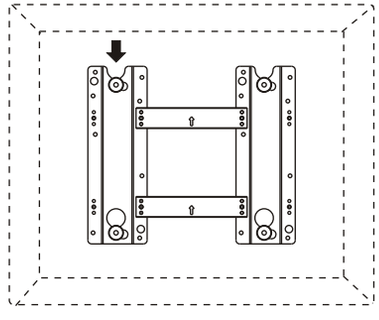


Fig.6

6. Let the display unit slowly slide down to the end of the calabash-shaped hole. (Fig.6)

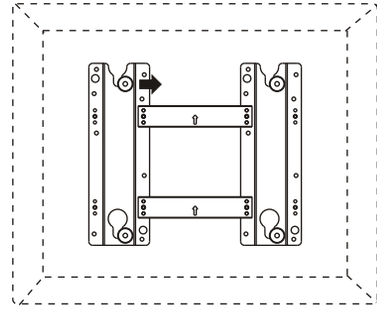


Fig.7

7. Push rightwards carefully until the wall mounting connectors fully slide into the right fix-grooves and be sure the mounting is secure.

8. If you want to dismount the unit do the above steps in reverse order.

June 2011

SANYO Electric Co., Ltd.